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BOLLINGEN SERIES XX

THE COLLECTED WORKS

OF

C. G. JUNG

VOLUME 2

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EXPERIMENTAL RESEARCHES

C. G. JUNG

TRANSLATED BY LEOPOLD STEIN
IN COLLABORATION WITH DIANA RIVIERE

BOLLINGEN SERIES XX

PRINCETON UNIVERSITY PRESS

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PETERBOROUGH, ONTARIO

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LIBRARY OF CONGRESS CATALOGUE CARD NUMBER: 75-156
ISBN 0-691-09764-X
MANUFACTURED IN THE U.S.A.

EDITORIAL NOTE

Jung's creative use of association tests was a part of the pioneering research going on at the Burghölzli in Zurich under the rigorous aegis of Eugen Bleuler at the beginning of this century. Freud's investigations, at the time known though little accepted, were clearly in Jung's mind as he observed the perplexing behaviour of associations; so instead of brushing these to one side and considering them only as aberrant features or as "failures to react" amongst classifiable groupings, he applied the interpretative method and formulated the theory of "complexes." Thus he rescued the association method from "scientific pedantry . . . and reinvested it with the vitality and interest of real life."[1] The papers in this volume marked, in their day, a revolutionary advance in the use of experimental techniques. All Jung's writings setting out his experimental point of departure and method are included in this volume. Another work of major importance in which the tests were used incidentally is placed in Volume 3 of the Collected Works: Jung's celebrated investigation of dementia praecox. In "On Simulated Insanity," in Volume 1, Jung uses the more formal surface classification of associations, and in a later paper, "A Review of the Complex Theory," in Volume 8, he gives his mature reflections on the place of association studies in his general view of psychic structures and processes.

Perhaps the most vivid account of the association theory will be found in the Tavistock Lectures (1935),[2] in Volume 18.

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The principal contents of this volume are Jung's six contributions to the famous Studies in Word Association (*Diagnostische Assoziationsstudien*). The experiments underlying the Studies were carried out under Jung's direction at the Psychiatric Clinic of the University of Zurich, beginning about 1902. Jung at that

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[1] C. A. Mace, "On the Eightieth Birthday of C. G. Jung," *Journal of Analytical Psychology*, I:2 (1956).

[2] First published 1968 as *Analytical Psychology: Its Theory and Practice.*

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time was senior assistant staff physician at the Burghölzli Mental Hospital (where the Clinic was); its director was Eugen Bleuler. The Studies appeared from 1904 to 1910 in the *Journal für Psychologie und Neurologie;* they included contributions also by Bleuler, Franz Riklin, K. Wehrlin, Emma Fürst, Ludwig Binswanger, and Hermann Nunberg.[1] They were reprinted in two volumes, 1906 and 1909. The entire series was translated by a leading British psychoanalyst, M. D. Eder, in a single volume, *Studies in Word-Association,* published by William Heinemann, London, 1918, and Moffat Yard, New York, 1919 (reissued in a facsimile reprint, 1969). The Eder translation has been consulted in the preparation of the present volume.

Jung's lectures under the heading "The Association Method" at Clark University in 1909 were translated by the American psychoanalyst A. A. Brill immediately afterwards for the *American Journal of Psychology* and for a volume issued by the University (both 1910). With little or no change, they were included by Constance E. Long when she edited Jung's *Collected Papers on Analytical Psychology* (1916). The Brill translation has also been consulted for the present volume.

The three other association studies in Part I of this volume appear for the first time in English. "The Psychopathological Significance of the Association Experiment" was Jung's inaugural lecture upon his appointment to a University lectureship. The three studies in Part II originally appeared in American and British journals, two of them being collaborations with American psychiatrists who came to the Burghölzli to participate in research. Four of the brief works in the appendix are also appearing for the first time in English; the fifth was originally published in Sydney, Australia.

In one or two details, the present translation does not follow the terminology evolved in other volumes of the Collected Works; these are cited in footnotes. The translation of "The

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[1] See the bibliography under their respective names. Jung published two abstracts of the Studies: (1) At the request of the French psychologist Alfred Binet, an "analyse bibliographique" of Vol. I of the *Studien* in Binet's journal, *L'Année psychologique* (Paris), XIV (1908), 453–55; (2) Summaries of both volumes of the *Studien,* in "Referate über psychologische Arbeiten schweizerischer Autoren (bis Ende 1909)," compiled by Jung, in the *Jahrbuch für psychoanalytische und psychopathologische Forschungen* (Leipzig and Vienna), II (1910), 366–74; see Volume 18 of the Collected Works.

[illegible] Dr. [illegible] Kerr [illegible].

[illegible] the first paper in Part II.

[illegible] in the Swiss edition of Jung's collected works.

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I

STUDIES IN WORD ASSOCIATION

THE ASSOCIATIONS OF NORMAL SUBJECTS

by C. G. Jung and Franz Riklin

[illegible]

[illegible]

[First published as "Experimentelle Untersuchungen über Assoziationen Gesunder," *Journal für Psychologie und Neurologie* (Leipzig), III (1904), 55–83, 145–64, 193–215, 283–308, and V (1905), 24–47, 109–23. Republished in *Diagnostische Assoziationsstudien: Beiträge zur experimentellen Psychopathologie*, edited by C. G. Jung, Vol. I (Leipzig, 1906; 2nd edn., 1911; 3rd edn., 1915), pp. 7–145 [illegible]. Translated by M. D. Eder in *Studies in Word-Association* (London, 1918; New York, 1919).

Franz Riklin (1878–1938) was assistant physician on the staff of the Burghölzli at this time. From 1907 to 1914, he and Jung were active in the International Psycho-Analytical Association. For his other publications, see the Bibliography.]

discovering whether individual patterns occur or whether any definite classes or types are to be found. We commenced our tests as a second experiment of a general psychological nature.

The mechanism of association is a most extraordinarily fleeting and variable psychic process; it is subject to countless psychic events which cannot be objectively established. Among the psychic factors that exert the most influence on the mechanism of association, attention is of paramount importance. It is the function that actually steers, that intensifies, inhibits, and shifts the process of association; it is also that psychic factor that can most easily be subjected to experimental and deliberate influence. Disturbances of attention that result from abnormal physical and mental conditions are what alter the associative performance.

4 Attention is that extremely complicated mechanism which by countless threads links the associative process with all other phenomena in the psychic and physical domain of consciousness. If we know the effects of attention on the process of association, then we also know, at least in general, the corresponding effects of every psychic event that attention is capable of affecting.

5 These considerations led us to investigate the effects of attention on the process of association, hoping to clarify as precisely as possible the following questions:

1. What are the laws governing the range of association in normal subjects?
2. What are the direct effects of attention on the associative process? In particular, does the valency of the associations decrease with the distance from the focus of consciousness?

6 Our experiments are recorded in a series of tests [illegible] persons in whom we have [illegible] associations [illegible] regard [illegible] as [illegible].

C. G. JUNG

Part One

I. GENERAL EXPERIMENTAL PROCEDURE

The experiments were carried out [illegible] series of experiments [illegible] people [illegible] seven [illegible] years [illegible] possible [illegible] experiment [illegible] Nevertheless [illegible] selected [illegible] experience. We [illegible] a short description [illegible] personal [illegible] possible [illegible] the experiment [illegible] other.

[illegible] words. We used [illegible] grammatically classified, are as follows:

nouns	23
adjectives	69
verbs	82
adverbs and numerals	18

[illegible] number [illegible] words [illegible] were [illegible] words arranged [illegible] has a range [illegible] are as possible was [illegible] seed that [illegible]

[illegible] everyday life

[illegible]

[illegible]

[illegible] demeanour.

[illegible]

[illegible]

[illegible] experimental series [illegible] case

[illegible] psychologist [illegible] tentively one's own psychic phenomena

[illegible] experiment [illegible] from 100 to 108 per minute

---

[illegible]

4 The [illegible] plays a large part in these experiments, as [illegible] expert. Many people [illegible] quickly get used to a purely mechanical [illegible] in which, in the second phase of the experiment [illegible] changes [illegible] pages [illegible] particularly [illegible] the [illegible] and [illegible] educated subjects.

[illegible] stimulus we were also [illegible] experiment [illegible] had an [illegible] effect on verbal images. We thus [illegible] effects of our experimental procedure.

5 From these experiments [illegible] associations [illegible] an average [illegible] time [illegible] every [illegible] We [illegible] several [illegible] in order to [illegible] certain [illegible] which [illegible] tests, an [illegible] associations for some of [illegible] stage. [illegible] were [illegible] from six subjects. Associations were also taken from one subject in a state of morning sleepiness [illegible] night [illegible] sleep [illegible] was completely exhausted. With one subject associations were taken when he was in a state of [illegible] without fatigue.

6 In this way we [illegible] total [illegible] associations.

II. CLASSIFICATION

1. General

7 As one with practical experience [illegible] has been confronted with [illegible] difficult [illegible] the experimenter. [illegible] says that the [illegible] associated [illegible] be seen as [illegible] word and reaction [illegible] association [illegible] has somewhat too simple an interpretation

---

[1] Ibid., p. 99.

[illegible] difference.

[illegible]

[illegible]

[illegible] We [illegible] [illegible]

[illegible] factory?

We [illegible] [illegible] want to [illegible] that even for [illegible]

[illegible] this, since the [illegible] does not [illegible] always [illegible] [illegible]

[illegible] associations so much [illegible] the end [illegible] [illegible]

[illegible] [illegible] and judgment association [illegible]

[illegible] [illegible]

[illegible] [illegible] application in practice

[illegible] [illegible]

---

[1] Claparède, *L'Association des idées* (1903), p. [illegible]

[illegible] caused by the [illegible]

[illegible] In our [illegible] of [illegible] expressi[illegible] [illegible] great [illegible] external [illegible]

[illegible]

[illegible] his principle

[illegible] speech [illegible] Here we are [illegible] aware that we are examining [illegible] speech [illegible] external [illegible] expresses [illegible] [illegible] for example [illegible] images [illegible]

[illegible] external [illegible] [illegible] examination [illegible] ideas.

2 SPECIAL CLASSIFICATION

A. Internal Association[a]

[illegible] connected [illegible] special classification [illegible]

[illegible] parts [illegible] are contained, underlies them. Examples:

accumulation of water)

lake ocean

(fruit)

cherry apple

[illegible]

[illegible]

(injustice or vice)

unjust faithlessness

---

[a] No such publication has been traced.

[illegible]

to call these examples of inner association.

[illegible] external association [illegible] internal association, contiguity, outer association.

[illegible] [illegible] The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] distinguished

1. [illegible] [illegible] but otherwise coincidental attribute, e.g.

father (worried)	worry
play (of child?)	youth
War (peace-league)	Bertha v. Suttner[1]
murderer (to hang)	gallows
sentence (contains something)	content
star (romantic, night?)	romanticism

2. [illegible] [illegible] e.g.

pencil (long)	length
sky (blue)	colour
sea (deep)	depth
table (particular shape)	style

[illegible] These [illegible] may be called [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] external association

---

[1] [illegible] first Nobel Peace Prize 1905.

[illegible] ordinates [illegible] example. [illegible] previously discussed patterns:

worry	father (e.g., of the father)
content	sentence (e.g., of the sentence)
colour	sky (e.g., of the sky)
[illegible]	[illegible] (e.g., [illegible])

35 [illegible] there is a series of rea[illegible] [illegible] is true that they are [illegible] [illegible] perhaps best [illegible] coordinations, partic[illegible] examples:

to give in	peace-loving	foreign	emigrant
to pay attention	clever man	to pray	pious man
to despise	wickedness	to help	good man

[illegible] [illegible] expression [illegible] [illegible] concepts that are given [illegible] [illegible] or superordinate. [illegible] [illegible] [illegible] example [illegible] among the possible reactions certain types [illegible] always [illegible] the [illegible] [illegible] these cases [illegible] externally governed [illegible] the [illegible] word.

[illegible] The special classification of the [illegible] [illegible] be as follows:

1) by common general concept
2) by similarity
3) by internal relationship
4) by external relationship
5) by example

Examples

1) father	uncle
2) father	God
3) father	worry

(4)	father	our house
(5)	to pay attention	clever man

18 It m[illegible] these examples [illegible] expressions [illegible] individuals [illegible] categories [illegible] possible. I [illegible] poss[illegible] [illegible] associations. Rat[illegible] [illegible] however [illegible] More [illegible] expected [illegible] present state of knowledge of association.

19 [illegible] is a part or a [illegible] subordinate [illegible] the stimulus-word, e.g.:

tree	beech

20 Here we [illegible] reactions that spec[illegible] stimulus- [illegible] represent spe[illegible] instances [illegible] general stimulus-concept, e.g.:

house	house on X street
horse	Mr. X's horse
railway station	Baden

21 In some cases [illegible] association [illegible] be considered as subordinate [illegible] predicate, e.g.:

food	today's (viz. food)

22 [illegible] The reaction [illegible] as the [illegible] general [illegible] the stimulus-word, e.g.:

Olten	town
cat	animal

---

[12] See infra, par. 409, n. 47.]

Here [illegible] the [illegible] predicate [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] general [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] is [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] as [illegible] [illegible] is a general concept that, as [illegible] many [illegible] concepts.

4e (e) *Contrasts.* The concept [illegible] [illegible] understood [illegible] [illegible] [illegible] contrasts [illegible] however. Contrasts are as a rule very closely associated images [illegible] conceptually [illegible] perceptually and [illegible] linguistically. There are even languages [illegible] [illegible] the same word exists to express verbal contrasts. It must have been a considerable psychic achievement [illegible] the beginning of language and [illegible] thought to separate contrasts in speech and concept. Today, however, we [illegible] these ancient achievements [illegible] [illegible] already [illegible] in the language. They are taught [illegible] from earliest youth together with the first concepts [illegible] [illegible] [illegible] are [illegible] [illegible] [illegible] verbal [illegible] [illegible] connected concepts [illegible] are very [illegible] supported by [illegible]tions and rhymes, e.g.

sorrow	joy	sour	sweet
pain	pleasure	light	dark[4a]
good	bad		

[illegible] and *hell-[illegible]*, [illegible] even [illegible] [illegible]. For these reasons we have grouped a large number of [illegible] contrasts [illegible] extended associations. Here [illegible] only [illegible] [illegible] are [illegible], as

[illegible]	[illegible]	[illegible]	[illegible]
good	sinful	vengeance	to forgive
animal	plant		

4f In speech [illegible] [illegible] [illegible] groupings there are still associations that [illegible] [illegible] [illegible] groups. For these there [illegible] [illegible] general [illegible] [illegible] [illegible] [illegible]

[4a] 'Sour sweet' and 'light-dark', i.e., *chiaroscuro*

[illegible] German [illegible] hearer [illegible] classified [illegible] images [illegible] be further classified

Summarizing [illegible] the following schema:

- (α) [illegible]
  - (2) by similarity
  - (3) internal relationship
  - (4) external relationship
  - (5) by example
- Grouping (β) Subordination
  - (1) Actual subordination
  - (2) Specification
- (γ) Superordination
- (δ) Contrast
- (ε) Groupings of [illegible] qualities

Predicates. We [illegible] here in agreement with [illegible] judgments, [illegible] and [illegible] Kraepelin [illegible] relationships" [illegible]

It is [illegible] that [illegible] judgments [illegible] [illegible] necessary [illegible]

[1] *Psychol.* [illegible]

[illegible]

[illegible] As regards [illegible] internal [illegible] slightly

[illegible] It [illegible]

[illegible]
terest this mode of classification

[illegible]
we must consider the different possibilities

[illegible]

[illegible]

[illegible]
than the other forms of predicative connection

[illegible]
or passive activity

[illegible]
the reaction. Or

[illegible]
tivity referring to it

[illegible]
ject

[illegible]
tinguished

[illegible]
groups

(1) Objective judgment, e.g.

snake	poisonous	war	bloody
glass	fragile	grandmother	old
[illegible]	spring	winter	raw
forest	dense		

[illegible]
them from the second group

(2) Value judgment, e.g.

father	good	pupil	good
to stink	unpleasant	soldier	brave
to ride	dangerous	wood	useful
mountain	beautiful	murderer	base
book	[illegible]	[illegible]	[illegible]

In these cases must be judged [illegible] whether [illegible] express [illegible] [illegible] [illegible] [illegible] [illegible] We also count the following among the predicates:

iron	useful metal
water	one of the most interesting chemical substances
scoundrel	disgrace

5. Verbal predicates expressed in [illegible] such as:

smoke	stinks
apple	tastes nice

are best placed with the predicates.

6. The [illegible] is not stated but demanded, e.g.

good	one should be
diligent	the pupil should be
to threaten	one must not

7. Such [illegible] merely [illegible] for the sake of [illegible].

(f) The [illegible] perception [illegible] characteristic [illegible] For this type [illegible] ex[illegible] ems

tooth	protruding	exercise-book	blue
[illegible]	[illegible]	[illegible]	[illegible]
tree	brown	etc.	

8. We assess the predicate relation between adjective and noun [illegible] according to the principles expressed above. Thus in this class we evaluate [illegible] as more or less equivalent.

9. [illegible] as predicates [illegible] interpreted in a different way (see below).

10. A further subgroup of predicates is [illegible] the relationships of noun and verb.[1]

[illegible] The [illegible] as [illegible] [illegible]

resin	sticks	to cook	mother
hunter	to shoot		

[illegible] The [illegible] word or the reaction is the object of a definite activity

door	to open	to clean	glass
to recruit	soldiers	throat	to strangle

The [illegible] as possible [illegible] and with a general validity, as in

to pray	pious person
to despise	wickedness
to give in	peace-loving

[illegible]

[illegible] purpose [illegible] previous [illegible] R[illegible] [illegible]burg's[8] "end-defining association":

place to go	into town
time to eat	12 o'clock
means to beat	with a stick
purpose wood	for burning

On[illegible] great. [illegible] general [illegible] reason they [illegible] examples:

door	noun	star	heavenly body
die	[illegible]		

---

[8] Ranschburg and Balint, p. 745.

The predicative relations are [illegible] separated [illegible] following groups:

I. Noun and adjective { (α) Internal predicate (1) Objective judgment
  (β) External predicate (2) Value judgment

II. Noun and verb (α) Subject relation
  (β) Object relation

III. [illegible]

IV. Definition

[illegible] Stimulus [illegible]
[illegible] Examples:

pain	tears
to cut	painful

B. External Associations

(a) Co-existence. [illegible] co-existence is [illegible] between [illegible] results from succeeding sense-impressions. Examples:

ink	pen	pupil	teacher
exercise-book	knife	table	chair
[illegible]	[illegible]	[illegible]	[illegible]
Christmas	Christmas tree	mother	child
Sunday	church	[illegible]	waiter

We also include here reactions like

to ride	horse	to ride	saddle
eye	to see	ear	to hear

pencil
paper
exercise-book
to sing } to write
to calculate
school

[illegible] images [illegible] stimulus as images by co-existence.

[illegible] more or less synonymous expression [illegible] the stimulus-word.

[illegible] expressed [illegible] language as the stimulus-word. Examples:

grand	magnificent
to pay attention	to take notice (in Swiss-German usage essentially synonyms)
to squabble	quarrel

(*b*) The [illegible] expressed [illegible] language [illegible] Examples:

stamp	[illegible]
Sunday	dimanche

[illegible] *Ziehen* [illegible] Knowledge [illegible] verbal association. In [illegible] external associations [illegible] images [illegible] a series [illegible] be canalized. We classify them as:

(*a*) *Canalized verbal associations.*

(1) Simple contrasts. Examples:

dark	light	white	black
sweet	sour	like	unlike

[illegible]

[illegible] *Psychol. Arb.*, I, p. 223.

[illegible] Experimentelle Untersuchungen über die Association der Vorstellungen," p. 2[illegible] (α) Current phrases. Examples:

hunger	to suffer	something	[illegible]
house	and home[20]	space	to apply
of age	to come	bread	to earn
goods	and chattels[21]	head	to bow
thanks	to give	bird	[illegible]
garden	to be	water	to look
trials	and tribulations	to swim	to be able to
work	and people	[illegible]	to ride
old	[illegible]	to go	for a walk
organ		[illegible]	to [illegible]
[illegible]	and go	[illegible]	[illegible]
place	[illegible]	to break	the news

74 (β) *Proverbs and quotations.* Examples:

everywhere	and nowhere	war	and peace
liberty	equality	more	light[22]
everywhere	I am at home	meat	drink
eye	tooth		
[illegible]	and storms		

75 (γ) *Compound words.*

The reaction [illegible] completes the stimulus word and forms a compound word. Examples:

table	leg	frog	blood[24]
needle	[illegible]	book	[illegible]
mat	hanging[23]	head	scarf
pear	[illegible]	[illegible]	[illegible]
vengeance	to thirst for	just tale	women's

The [illegible] repeated in the reaction, e.g.:

tears	tears [illegible][25]	foot	[illegible]
to knock	to knock at	star	star[illegible]
to hear	to hear out[26]	sweet	sweetmeat

[illegible] the hospital grounds.

In German: *Kind Kegel* "child bastard." *Kind und Kegel* is a folk expression for "the whole family."]

Goethe's dying words.]

Matte Hänge = *Hängematte*, hammock, originally a hanging mat. Some of these compounds are untranslatable.

Referring to someone who is "cold-blooded."]

[25] [The actual example *Tränensack* refers to the [illegible]

4. [illegible] grammatical variation [illegible] [illegible] Wreschner: "Association [illegible] [illegible] [illegible] -ional form.")

to die	dead	to feel	found
kindling	to kindle	love	to love
to hammer	hammer	cab	cabby
school	[illegible]	[illegible]	[illegible]

8. [illegible] that can be termed anticipatory. Examples:

dark red	light	grandiose	small
slow	short		

9. Interjections. [illegible] have been placed [illegible] Aschaffenburg stresses [illegible] represent a predicative [illegible] interpretation by placing [illegible] the high variance [illegible] the relation, which moreover contains a very strong motor component. Examples:

grand	ah!	to love	oh!
to stink	pooh!		

C. Sound Reactions[29]

The content of this group corresponds to Aschaffenburg's group [illegible] words acting only by sound.

a. Word completion. We interpret these words in agreement with Aschaffenburg [illegible] together with the stimulus-word form an intelligible word. Examples:

wonder	ful	modest	y
love	ly	friend	ly

---

[26] [German] [illegible] means [illegible] alternatively.]

[27] In the German language there is the generic term *Spielball*, meaning a ball used for any game.]

[28] [illegible] p. 241.

[29] Sound: German *Klang*, also translated in the *Coll. Works* as "clang."

We also consider additions to the stimulus-word to form a name, as word-completion. Example:

Canter	-bury
Winter	-bourne[30]

78 (b) [illegible] The reaction is determined solely by the sound of the stimulus-word or its beginning. Examples:

enchain	enchant	intention	intensive
mercenary	merciful	to roast	roast beef
		humility	humidity

79 (c) RHYME.[32] Examples:

dream	cream	king	ring
heart	smart	crank	plank
leave	grieve		

80 [illegible] [illegible] ngress [illegible] [illegible] [illegible] from doing this.

D. Miscellaneous

81 This is a relatively large group, comprising those reactions for which no place could be found in the rest of the scheme, and which have only a very limited connection with each other.

82 (a) INDIRECT ASSOCIATION. [illegible] known [illegible] indirect mode of [illegible] reactions [illegible] regard as [illegible]. We have [illegible] [illegible] never [illegible] many different [illegible] affect our reactions [illegible] [illegible]

---

[30] [illegible] both giving the name of a town.

[31] [illegible] have been replaced by similar pairs of English words.]

[32] [illegible] replaced by [illegible]

[illegible]

white – fur

snowfield

false – blonde

Miss X is false and blonde

repentance – black

mourning

to cause – round

to turn

to disgust – odourless

to stink

fast – to wriggle

locomotive

hay – green

grass

dozen – egg

heap

turbid – shadow

water

red – scent

flower

cycle – round

wheel

to walk – pear

under pear-trees

to turn – earth

to rotate

rich – 5 franc piece

roll of money

[illegible] type

[illegible]

g[illegible] indirect association [illegible] sound [illegible] examples:[38]

decision to slice
(to decide)

stubborn foolish
(mulish)

to quarrel to shoot
(dispute)

hair blue
(blonde)

sacrifice to castrate
(casket, sacristy)

ears typhus
(tubes)

to dress excessive
(overcoat)

society unit
(union)

earth house
(heap)

metal fastness
(fastened)

love crate
(hate)

pair [illegible]
(boot)

86 C[illegible] these reactions from [illegible] direct [illegible] this point of view [illegible] tion. The indirect association appears [illegible] as- sociation and not [illegible] appreciated [illegible] however [illegible] the meaning [illegible] the image [illegible] expressed [illegible] and [illegible] tensity of attention [illegible] speech mechanism. Deviations [illegible] intensified [illegible] reach a sufficient degree of consciousness. Therefore we also assume that [illegible] has remained [illegible] agrees completely with the accounts of subjects [illegible] themselves [illegible] had no more than a feeling [illegible] said the right thing [illegible] Whether in such cases the [illegible] towards similarity of sound [illegible] the sending [illegible] seems to us irrelevant to the evaluation of the reaction.

87 *Compensatory sound reaction.* [illegible] repeated [illegible] sound similarity [illegible] reaction [illegible] the intermediate link is [illegible]

---

[38] [Most of the original examples are not translatable, so equivalents have been found.]

[illegible]

[illegible]

to swallow bird
(swallow)
strong sin
(wrong)
malt pepper
(salt)
politics belly
(policeman)
stroke knot
(string)
to hit to bite
(to smite)
malt vinegar
(salt)

[illegible]
[illegible]
to rust fair
(just)
room to caw
(rook)
stroke cigar
(smoke)
to wallow throat
(swallow)
to love turtle
(dove)
pleasure tape
(measure)

88 In our experiments [illegible] act of apperception has taken place.[36]

---

[34] Many of the original examples, being untranslatable, have been [illegible] English equivalents.

[35] Intensity of attention: see above, par. 86.

[36] Münsterberg maintains that, in order to stimulate association, the external [illegible] conscious [illegible] There is a [illegible]

[illegible] Examples

standard fi[illegible]er
(so[illegible]on)

false faithfulness
(faithful)

rats poisonous
(poison)

to cook coachman
(the cook)

avarice patient
[illegible]

armlet foot
(arm)

horrible grey
(gruesome)

look-out strike
(lock-out)

head block
(block head)

angel heart
(hard)

clean flea
(unclean)

painter beautiful
(painting)

lock-jaw teeth
(jaw)

permanently to certify
(deranged)

to roll round
(roller)

fox finger
(foxglove)

[illegible] All the types [illegible] be found among these reactions. Examples:

ink	acid	revenge	rector
(red	litmus)	(right	rectify)
bird	mouse		
(flutter	bat *Fledermaus*)		
loathe	big	tough	headache
([illegible]	small)	(tooth	ache)

We saw [illegible] present [illegible] experiments [illegible] say that these associations are [illegible] connected with variations in concentration.

[illegible] In moments of emotion or embarrassment reactions are sometimes given that are [illegible] or are not associations.

[illegible] separate associations as sound reactions [illegible] reminiscences. Among the non-associated words there are many of unexplainable origin. They are mostly names of objects in the surroundings [illegible] at the moment of perception are not connected with the stimulus-word. Some nonsense reactions are perseverations of type b (see below).

c) FAILURES. [illegible] reaction [illegible] a failure. The cause of the failure is usually emotional.

d) REPETITION OF THE STIMULUS-WORD. A very small group that could easily have been put into the category of failures. There are, however, certain subjects who [illegible] quickly repeating the stimulus-word to themselves and then giving their actual reaction. [illegible] the experimenter [illegible] conversation. This reaction [illegible] categories. Repeating the stimulus-word [illegible] also an emotional phenomenon. (Wreschner is of the same opinion.)

This completes the special classification of associations. There remain only a few general points that help to classify the types of association.

F. The Egocentric Reaction

It is striking that certain individuals tend to form ideas of reference during the experiment, that is, to give highly subjective judgments that are clearly influenced by wish or fear. Such reactions have something individually characteristic and are indicative of certain personalities.

a) DIRECT IDEAS OF REFERENCE. Examples:

grandmother	I
to dance	I don't like
unjust	I was not
praise	for me
to calculate	I cannot

b) SUBJECTIVE VALUE JUDGMENTS. Examples:

to be lazy	pleasant	piano	horrible
to calculate	laborious	love	stupid
blood	gruesome		

Eine experimentelle Studie über die Association in einem Falle von Idiotie.

F. Perseveration[29]

[illegible] By [illegible] we [illegible] the [illegible] preceding [illegible] the next [illegible]. We [illegible] reaction. [illegible] expressed [illegible] general [illegible] Here we [illegible] the phenomenon of perseveration. We must point [illegible] perseveration may be caused [illegible] In [illegible] cases of perseveration [illegible] distinguished.

[illegible] 2. *The reaction is an association to a previously used stimulus-word.* Examples:

winter	skates
lake	ice
to melt	hot
slow	fire
water	fall
to dance	to fall

[illegible] association [illegible] stimulus-word. Examples:

[illegible]	[illegible]
[illegible]	[illegible]
soft	[illegible] along
gallant	up the steps

[illegible]

---

[29] Aschaffenburg's "alteration" in words previously used [illegible] reaction. The term is intended to be purely formal and is not intended to [illegible] associative connections. In any case we wish to stress that our concept has no [illegible] plain the psychological after-effect of the earlier image.

[illegible] complex [illegible]

G. Repetition

In each experiment the same reactions were counted; the [illegible] cided not to count repetitions of form.

H. Linguistic Connection

[illegible] knowledge Bourdon [illegible]

Bourdon [illegible] Bourdon examined [illegible] He found the following [illegible]

Ressemblance	phonétique	0.620
	graphique	0.888
	syllabique	0.064

[illegible]

[illegible] être exprimé par le [illegible] par la ressemblance phonétique."

In accordance with these [illegible] we have assembled a group [illegible] as external [illegible].

(a) THE SAME GRAMMATICAL FORM. We simply counted how [illegible] the form of the word was the same [illegible] as in the reaction. This is [illegible] together. We arrived at this [illegible] we had observed that large [illegible]

(b) THE SAME NUMBER OF SYLLABLES. We counted how often the stimulus-word and the reaction contain the same number of syllables, with the object of finding out more about the influence of rhythm.

(c) PHONETIC AGREEMENT

1. *Consonance.* We counted how often the [illegible] the stimulus-word and the reaction agreed at least as regards the vowel.

2. *Alliteration.* Here we noted how often the stimulus-word and the reaction alliterated [illegible]

3. *Same ending.* Here we examined the phonetic agreement [illegible] the ending of the reaction [illegible] rhyme. Here we only noted whether the final syllables tallied.

SUMMARY

A. Internal Associations

- (a) Grouping
  - (α) Co-ordination
    - (1) By common general concept
    - (2) By similarity
    - (3) By internal relationship
    - (4) By external relationship
    - (5) By example
  - (β) Subordination
    - (1) Actual subordination
    - (2) Specification
  - (γ) Superordination
  - (δ) Contrast
  - (ε) Groupings of doubtful quality

- (b) Predicative relationship
  - I Noun and adjective
    - α) Internal predicate
      - (1) Objective judgment
      - (2) Value judgment
    - β) External predicate
  - II Noun and verb
    - α) Subject relationship
    - β) Object relationship
  - III Determination of place, time, means, and purpose
  - IV Definition or explanation
- (c) Causal relationship

B External Associations

- (a) Coexistence
- (b) Identity
- (c) Linguistic-motor forms
  - α) Canalized verbal associations
    - 1) Simple contrasts
    - 2) Current phrases
  - β) Proverbs and quotations
  - γ) Compound words and word-changes
  - δ) Anticipatory reactions
  - ε) Interjections

C Sound Reactions

- (a) Word-completion
- (b) Sound
- (c) Rhyme

D Miscellaneous

- (a) Indirect associations
  - α) Connection by common intermediate concept
  - β) Centrifugal sound-shift
  - (γ) Centripetal sound-shift
  - δ) Sound through a word-completion or linguistic-motor form
  - ε) Shift through several intermediate links
- (b) Meaningless reactions

(c) Failures
(d) Repetition of the stimulus-word

E. The Egocentric Reaction

(a) Direct ideas of reference
(b) Subjective value judgments

F. Perseveration

[illegible]
[illegible]

G. Repetition of the Reaction

H. Linguistic Connection

(a) The same grammatical form
(b) The same number of syllables
(c) Phonetic agreement
  1) Consonance
  2) Alliteration
  3) The same ending

We [illegible] our material according [illegible] principles [illegible] scheme. [illegible] complicate the presentation of the results unnecessarily [illegible] figures the graphs [illegible] Part I [illegible] reproduce only the figures [illegible] groups [illegible] exhaustive [illegible] grouped more [illegible] figures [illegible] groups. For reasons [illegible] also [illegible] interest [illegible] so far as they are known to us.

[illegible] of the schema

I. Internal Associations
  1. Grouping
  2. Predicative relationship
  3. Causal relationship

External Associations
  1. Co-existence
  2. Identity
  3. Linguistic-motor forms

III. Sound Reactions
  1. Word-completion
  2. Sound
  3. Rhyme

IV. Miscellaneous
  1. Indirect associations
  2. Meaningless reactions
  3. Failures
  4. Repetition of the stimulus-word

A. Perseveration
B. The Egocentric Reaction
Repetition of the Reaction
D. Linguistic Connection

  1. The same grammatical form
  2. The same number of syllables
  3. Alliteration
  4. Consonance
  5. The same ending

PART TWO

RESULTS OF EXPERIMENTS

A. RESULTS OBTAINED FROM INDIVIDUAL SUBJECTS

[illegible] differences [illegible] disturbing [illegible] Pr[illegible] [illegible] as already stated [illegible] even possible [illegible] was somewhat [illegible] different [illegible] great differences [illegible] subjects. It therefore seemed [illegible] figures of each subject [illegible] be avoided. All figures are percentages.

I. EDUCATED WOMEN

Fourteen subjects with 4,046 reactions

5 Subject [illegible] In general [illegible] the [illegible] We [illegible] the [illegible]

[illegible] and unavoidable changes in our present life so great, that we should [illegible] nomenon, but in our view has not interpreted it correctly [illegible]

Subject 1. About [illegible] years of age, very intelligent

[illegible]	[illegible]	[illegible]	[illegible]	External	
				[illegible]	[illegible]
Grouping	26	21	8	4	12
Predicative relationship	14	14	5	2	[illegible]
Causal relationship	2	1			2
Co-existence	20	10	10	2	–
Identity	1	7	4	8	–
Linguistic-motor forms	36	38	54	20	38
Word-completion	1	1	6	8	2
Sound		8	8	34	38
Rhyme	–	1	–	6	
Indirect	–	–	–	4	
Meaningless	–	–	2	4	6
Failures		–	–		
Repetition of stimulus-word		–	–	6	–
Egocentric reaction	1	–	–	–	–
Perseveration			2	6	4
Repetition of reaction	5	8	2	0	6
Same grammatical form	67	58	64	56	54
Same number of syllables	43	41	56	60	42
[illegible]	[illegible]	[illegible]	2	32	7
Consonance	12	15	16	52	52
Same ending	10	6	10	14	6
Internal associations	42	36	8	8	16
External associations	57	55	68	30	38
Sound reactions	1	10	14	48	40
Number of associations	100	100	50	50	50

[illegible]

[illegible]

[illegible] subjective feeling which, however, usually but not always develops before real fatigue.

[illegible] Marhold, 1897.

[illegible] linguistic habit predominates; while later, on reflection, a secondary tendency to co-ordinate develops.

[illegible] work on this subject.

[illegible] of mental and physical energy. Aschaffenburg, II, p. 47.

[illegible] e.g. in epilepsy [illegible] Heilbronner [illegible] catatonia and manic stupor.[8]

[illegible] only occasionally took place.

[illegible] outside consciousness.

We [illegible]

---

[8] Heilbronner: Über epileptische Manie nebst Bemerkungen über die [illegible]

[illegible]

psychic reaction [illegible] consciousness [illegible] these associations [illegible] that had been suppressed [illegible] We [illegible] the pathology of association.

[illegible] complete [illegible] other words [illegible] the periphery of consciousness and is apprehended [illegible] its external appearance as sound. The cause of these [illegible] perceptions lies in the weakness of [illegible] Every process [illegible] just [illegible] simultaneously [illegible] speech centres [illegible] ready to discharge. [illegible] happen [illegible] the [illegible] effect [illegible] attention [illegible] is the [illegible] for a [illegible] limited forms of association.

2 In this case the [illegible] meaningless reactions [illegible] experienced [illegible] Th[illegible] are [illegible] e.g.

intention — out of humour ("one notices the [illegible]")[1]
to rescue — art (art of poetry)

strong — mighty
hatred — magnificent[2]

[illegible] rhyme, e.g.

appearance — rhythm

[illegible] experiment [illegible] after [illegible] also [illegible] consonance [illegible]

---

[1] The reference is to a well-known quotation from Goethe's *Torquato Tasso* [illegible] the intention and becomes out of humour.")

[2] In German, a rhyme: *mächtig, prächtig*.

[illegible] part

29 The progression is as follows

1st experiment	5, 5, 7
2nd experiment	5, 6, 8

[illegible] The group [illegible] the agreement [illegible] the individual causes of these differences.

[illegible] which were in answer [illegible] words [illegible] at the same time [illegible] predicates [illegible] judgments [illegible] This [illegible] seems to indicate [illegible] phenomena [illegible]

We should [illegible] the largest [illegible] the smallest number [illegible] the largest number [illegible] the smallest number [illegible] reactions. This correlation [illegible] appear [illegible] probably not coincidental

[illegible]

[illegible]		[illegible]		[illegible]		
					External	
SPECIAL QUALITY	[illegible] Hundred	[illegible] Hundred		Internal	60 Metronome	100 Metronome
Grouping	27	14		10	16	6
Predicative relationship	8	26		18	18	20
Causal relationship	1	5			2	
Co-existence	24	16		11	20	8
Identity	9	1		4	18	12
[illegible]	-	[illegible]		50		[illegible]
Word-completion		1		2	2	6
Sound	–	1		1		2
Rhyme	–	·			2	–
[illegible]	[illegible]				2	
Meaningless		–		–	–	-
Failures	4	2		1	2	
Repetition of stimulus-word		–		1	-	·
Egocentric reaction	1	1			–	
[illegible]	1			[illegible]	[illegible]	[illegible]
Repetition of reaction		4		–	2	
Same grammatical form	55	47		69	76	64
Same number of syllables	31	24		29	36	40
Alliteration	12	15		10	2	6
[illegible]	[illegible]	[illegible]		[illegible]	5	[illegible]
Same ending	4	9		14	6	8
Internal associations	46	45		28	36	36
External associations	47	53		65	56	56
Sound reactions		2		3	4	8
Number of associations	100	100		[illegible]	50	50

[illegible] deserves some discussion. We [illegible] [illegible] as in [illegible] experience [illegible] these [illegible] [illegible] [illegible] [illegible] [illegible] The second [illegible] [illegible] examples.

singing (opera or concert) singing

[illegible] sees a scene from *Tannhäuser* on a certain stage.

[illegible] fire

sees a particular [illegible] image [illegible] fireside scene [illegible] in London.

tile roof

sees red roofs.

journey itinerary

sees an English traveller.

apple tree

sees a picture of Eve with the apple.

honour sense of

sees the visual [illegible] image [illegible] scene from Sudermann's *Honour*.

sail cloth

sees a sailing-boat.

deportment rule

sees the vivid memory-image of her younger brother at a school for dancing and deportment.

modest   [illegible]

sees the picture of a certain young girl.

plant   kingdom

sees a certain picture-book with pictures of plants.

sign   post

sees a crossroads.

peacefully   rest peacefully

sees a certain small kitten.

music   enjoyment

sees the interior of a certain concert-hall. (vivid memory-image.)

These examples show that the reactions are very simple [illegible] organised [illegible] forms. The internal images are certain [illegible] the reaction. According to [illegible] In [illegible] reactions are [illegible] [illegible] complete [illegible] image.

praise   praise for the singer

The subject sees a certain teacher [illegible]

manners   good manners

sees the [illegible] a Swiss country community—of an old custom.

like   like will to like

sees the written sum 2 × 2 = 4.

to stretch   to stretch (Katzenstrecker) sees a street called [illegible] a [illegible] name for a man from Lucerne,

tight — tight-fisted

sees a tight, narrow lead-pipe

stone — buck (*Stein, Bock*)

sees a collection of minerals

change — time (*Wechsel, Zeit*)

sees a promissory note (*Wechsel*)

fashion — woman of fashion

sees an elegant young

dull — eyes

sees a dull, rainy landscape (constellated by the day of the experiment)

mirror — shop

sees the window of a certain glazier's.

forward — march

sees a copy of the *Forward* (newspaper).

down — to sit

sees a low stool in a certain sitting-room

94 In these reactions [illegible] image [illegible] completely [illegible] The [illegible] image that [illegible] a different [illegible]

Conversely [illegible] image that [illegible] examples [illegible]

number — number, quantity (*Zahl, Menge*)

sees a newly extracted tooth (*Zahn*)

woollen — you must (*wollen, du musst*)

sees a woolly (*wolliges*) sheepskin

149 *Summary.* The character of the associations is [illegible]. The external associations predominate, particularly the linguistic forms. Both types of distraction were very successful, particularly internal distraction, which revealed [illegible] preponderance of sound reactions. A few reactions under internal distraction are of interest.

lid nid (senseless rhyme)

The subject sees a beermug with a lid

hall throat (*Halle Hals*)

sees a waiting-room in a certain station

fall staff

sees a waterfall

stone bone (*Stein Bein*)

sees a picture of the little town of Stein on the Rhine

150 The fact that the number of internal associations remained nevertheless above the normal level in internal distraction and in the first half of external distraction can be attributed to the fact that the artificial lowering of attention was not uniform and continuous but decreased from time to time, whereupon internal reactions were given. The reactions obtained from the same subject in a state of great physical and mental fatigue give a more uniform picture of associative levelling-down. According to these findings the state of fatigue has no other significance for this experiment than a uniform lowering of attention; its repercussion on the associations is in no way different from the results of the distraction experiments. Nor is a difference discernible in the finer points of individual associations—which cannot be counted or measured—except for very few reactions the content of which is caused by the particular constellation of fatigue. As appears from our further observations on this subject and also from Aschaffenburg's investigations, no specific change other than the [illegible] of the [illegible] [illegible] during the state of fatigue could be demonstrated. The lowering of the reaction in fatigue can easily be accounted for by a decrease of attention. We also have every reason to assume

Subject 3 [illegible]

ASSOCIATIONS	NORMAL		DISTRACTION			
				External		
SPECIAL QUALITY	1st hundred	2nd hundred	[illegible]	[illegible]	[illegible]	Fatigue
Grouping	8	9	19	14	14	4
Predicative relationship	16	22	13	22	4	1
Causal relationship	·		2			
Co-existence	22	7	4		2	16
Identity	3	12	6	10	6	2
Linguistic-motor forms	46	44	26	52	54	46
Word-completion	1	1	5	10	10	
Sound		·	15	6	6	1
Rhyme	3	1	9			25
Indirect	1	3	1	—	2	3
Meaningless		1		6	2	12
Failures	—	—	—	—	—	—
Repetition of stimulus-word						
Egocentric reaction						
Perseveration		1		1		
Repetition of reaction	7	12	6	8	8	8
Same grammatical form	63	50	62	52	54	70
Same number of syllables	52	48	60	44	50	73
Alliteration	6		6	[illegible]	[illegible]	8
Consonance	24	7	35	18	30	47
Same ending	13	20	22	20	16	44
Internal associations	24	31	34	36	18	5
External associations	71	63	36	42	62	52
Sound reactions	4	3	29	16	16	26
Number of associations	100	100	100	50	50	100

that the lowering of the reaction in a collapse from excitation and manic excitation observed by Kraepelin's school is nothing but a symptom of disturbed attention. The connection with motor excitation suggested by Aschaffenburg is in our view secondary and indirect: the motor excitation lowers the intensity of attention and thereby brings about a lowering of associations. The disturbance of attention in motor excitation is a matter of experience, and in the manic state it has long been known as distractibility. Since attention as an affective phenomenon is associated with certain somatic [illegible] processes, the decrease of its strength can be attributed to motor excitation. Thus Aschaffenburg is not wrong when he considers motor excitation is the direct cause of the [illegible] of the reaction; motor excitation is almost [illegible] after series of abnormally low reactions. But in addition to all these conditions is the disturbance of attention, which is probably always the immediate cause of all association types similar to flight of ideas. The origin of this disturbance is of course different in each special case; a single process it cannot be; sometimes it is the motor excitation, or an increase or decrease of kinesthetic feelings, or [illegible] an unusual stimulus arouses [illegible] internal excitement or an psychological [illegible] as in our experiments).

The great variation in intensity of attention makes association experiments with alcohol and fatigue susceptible to an error extremely difficult to estimate. So, too, in the state of the present experience it is practically impossible to say anything positive about the extent of the disturbances of association through alcohol, etc. Judging from the percentages of some of our experiments, the subject must have been in an absolute [illegible] state. According to Aschaffenburg's theory a result with [illegible] per cent [illegible] associations and 2[illegible] per cent sound reactions corresponds to a state of heavy intoxication or serious [illegible] or a state of quite abnormal fatigue. The intensity of this lowering, however, can easily be explained by the fact that great [illegible] abnormal fatigue was accompanied by marked drowsiness. The decrease of attention [illegible] in sleep

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[1] Aschaffenburg errs when he says, for example, that Nordau's descriptions referred to hypomanics; they refer rather to the larger group of individuals incapable of concentration and showing blunt association type.

external [illegible] experiment [illegible] as [illegible] The [illegible] is [illegible] this present [illegible] large.

114 Unconsciousness is not merely [illegible] extent a [illegible]logical [illegible] perhaps be described [illegible] a ps[illegible] takes place in the area [illegible] small [illegible] can [illegible] pure suggestion. Exactly the same [illegible] The [illegible] may be [illegible] of [illegible] different [illegible] may be quite different. [illegible] the suggestive effects [illegible] and experiment. In [illegible] possible. There[illegible] experi[illegible]ments [illegible] and [illegible] not always [illegible] suggest[illegible]

115 The [illegible] experiment. The great prevalence of external [illegible] attributed [illegible] decrease [illegible] attention. The [illegible] the [illegible] increase [illegible] that there are [illegible] people. The [illegible] are [illegible] interesting [illegible] this respect as [illegible] of [illegible] psychology. We give the figures here.

116 [illegible] years [illegible] the [illegible] subject. The associations have [illegible] general and [illegible] external [illegible] associations also are [illegible] so that the character of the internal [illegible] the result of a distraction [illegible] experiment [illegible] internal distraction there is an unexpected increase of internal associations as well

---

[illegible] educated men

Subjects 4 and 5. Sister and mother of subject 3

	[illegible]			[illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	
Special quality	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Grouping	3	8	16	24	17
Predicative relationship	7	8	8	[illegible]	[illegible]
Causal relationship			1	1	0
Co-existence	2	6	3	8	8
Identity	2	4	1	6	13
Linguistic-motor forms	67	56	59	46	45
Word-completion	4	8	14	3	4
Sound	3	6	9	—	3
Rhyme	2	1	2		
Indirect	2	3	5	1	2
Meaningless	1	—	2	1	1
Failures	1	—	—	—	—
Repetition of stimulus-word	—	1	1	[illegible]	—
Egocentric reaction	—	—		—	—
Perseveration	1		2	[illegible]	[illegible]
Repetition of reaction	9	7	4	9	5
Same grammatical form	61	51	54	81	66
Same number of syllables	48	47	35	51	38
[illegible]	3	1	2		12
Consonance	14	19	24	16	17
Same ending	11	14	7	18	10
Internal associations	10	16	25	35	24
External associations	77	66	43	60	66
Sound reactions	8	14	25	3	7
Number of associations	100	100	90	100	100

as [illegible] an increase of sound reactions. The superficiality was greatest in the experiment under [illegible] experience in normal [illegible] the most [illegible] disturbance of attention [illegible] from other experiments performed with the subject, it becomes apparent that [illegible] perception [illegible] predominates [illegible] over the other senses. Externally too the [illegible] is shown [illegible] great vivacity and [illegible] developed [illegible] motor expression. It must here be stressed that [illegible] tivity far exceeds the [illegible] expressed in motor automatisms that are [illegible] speaking [illegible] Among the [illegible] normal state there are [illegible] predicative reactions [illegible] the affect [illegible] Thus we have [illegible] has [illegible] significance [illegible]

87 [illegible] (Subject [illegible] elsewhere.)

88 The [illegible] experiments is [illegible] normal type. We [illegible] explanation [illegible] the impr[illegible] reaction type [illegible] attention [illegible] complex [illegible] the subject [illegible] therefore [illegible]. Nevertheless great fluctuation [illegible] number of sound reactions together with the relatively numerous internal associations.[28]

[illegible] facilitate talking.

[27] Cf. subject 16 (educated men).

[28] Cf. subjects 15 and 16 (educated men).

139 A special peculiarity of this subject is the occasional occurrence of chromatic synaesthesias (*audition colorée*), which influence the reaction. Examples under normal conditions:

to kiss (*küssen*)	yellow

ü is yellow for the subject.

misery (*Elend*)	something red

e is red.

indolent (*träge*)	blue

ä is blue.

140 Examples from the distraction experiment:

orgy	orgy

Subject sees a yellow mass.

pious	blessed

sees something yellow.

Strangely enough, the subject [illegible], who has the same reaction-type as subject 4, is also a definite motor type, and also has very vivid synaesthesias, which, as it happens, did not appear in the reactions.

141 The following phenomena from the last association experiment are worth mentioning:

stork	-'s leg

Subject sees a church-tower.

to hinder	hammer-let (Hamlet)

sees a brake.

fall	bone (*Fal -z bein*, paper-knife)

sees a high wall from which one could fall.

red	wine

sees a red sphere.

barrel	-ter (*Fass -ter* [*Vater?*])

sees a certain cellar.

3 [illegible] the [illegible] consciousness [illegible] less [illegible] completely [illegible] the external [illegible] being given almost [illegible] voluntarily and touching consciousness [illegible] superficially. The above examples show clearly and [illegible] perfectly the pure [illegible] character of the [illegible]

4 [illegible] Qualitatively [illegible] shows [illegible] that [illegible] subjects [illegible] very similar. Particularly prominent [illegible] these three people are [illegible] there are some deviations under normal [illegible] from [illegible] For [illegible] figures for these subjects [illegible] normal conditions:

	Internal Associations	External Associations	Sound Reactions
Mother	[illegible]	[illegible]	[illegible]
Elder daughter	27.5%	[illegible]	[illegible]
Younger daughter	19.0%	[illegible]	[illegible]

We draw attention to the increasing degree of [illegible] in the younger daughter. The figures were all [illegible] the same [illegible] one [illegible] believe that [illegible] experiment. Perhaps this [illegible] deeper psychological reasons. We refer [illegible] Ranschburg[4] found [illegible] 18 per cent more [illegible] internal associations [illegible] than [illegible] young subjects.

16 [illegible] Such external associations [illegible] are [illegible] in the [illegible] predominate. The [illegible] slight [illegible] of external associations [illegible] case [illegible] qualitatively [illegible] from the types [illegible] reported [illegible] part highly charged value judgments, e.g.

pupil	boring	school	beautiful
father	good	[illegible]	[illegible]
book	interesting	piano	horrible

On the other hand, it is the predicates that designate [illegible] properties [illegible] things that are to a greater or lesser extent [illegible]

---

[4] Ranschburg and Ba[illegible], p. 689.

Subject 6. Ab[illegible] years [illegible] very well read, poetic talent

ASSOCIATIONS	NORMAL		DISTRACTION		
				External	
SPECIAL QUALITY	1st hundred	2nd hundred	Internal	60 Metronome	100 Metronome
Grouping	9	14	8	8	6
Predicative relationship	32	14	30	24	36
Causal relationship	1	–	–		
Co-existence	12	18	14	16	10
Identity	2	6	2	6	2
Linguistic-motor forms	39	39	40	34	42
Word-completion	–	1	–	2	
Sound		4		4	2
Rhyme	4	2	–	2	2
Indirect	1	2	2	2	–
Meaningless			–	–	–
Failures	–	–	2	·	–
Repetition of stimulus-word		–	2	–	–
Egocentric reaction	10	4	6	8	4
Perseveration				2	4
Repetition of reaction	15	5	4	4	4
Same grammatical form	45	52	48	46	40
Same number of syllables	50	33	36	40	42
Alliteration		9	6	8	2
Consonance	26	28	12	14	10
Same ending	8	10	0	2	8
Internal associations	42	28	38	32	42
External associations	53	63	56	56	54
Sound reactions	4	7		8	4
Number of associations	100	100	50	50	50

[illegible] subjects. In the second [illegible] significantly only occurred with external distraction.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] question.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] e.g.:

to cook	laborious	to ride	[illegible]
water	wonderful	pr[illegible]	[illegible]
star	magnificent		

About 4 per cent of the reactions betray an egocentric direct wish or a defence

[illegible] Subject 5. The [illegible] associations [illegible] than the [illegible] this subject showed a very [illegible] re[illegible] appears [illegible] of predicate reactions and especially [illegible] the [illegible] egocentric reactions too is rather high

From these figures and from the individual quality of the reactions a [illegible] emerges. Thus we can [illegible] some probability that the subjective reaction type [illegible] subject is based [illegible] considering the [illegible] aspects [illegible] particularly whether in the case of the younger [illegible] remember, we [illegible] in respect [illegible] phenomena [illegible] subjects [illegible]. For this purpose we again [illegible] the figures of our subjects in a normal state

[illegible]

ASSOCIATIONS	NUMBER	ASSOCIATIONS	NUMBER
SPECIAL QUALITY	[illegible]	SPECIAL QUALITY	[illegible]
Grouping	9	Egocentric reaction	40
[illegible]	[illegible]	[illegible]	5
Causal relationship	8	Repetition of reaction	25
Co-existence	12	Same grammatical form	45
[illegible]	4	[illegible]	22
[illegible]		[illegible]	
		Consonance	9
Word-completion	–	[illegible]	
Sound	–		
Rhyme		Internal associations	78
Indirect		External associations	19
Meaningless	1		
Failures		Sound reactions	
Repetition of stimulus-word			
		Number of associations	76

	Internal Associations	External Associations	Sound Reactions	Egocentric Reactions
Mother	[illegible]	[illegible]		[illegible]
Elder daughter	[illegible]	[illegible]		
Younger daughter	[illegible]	[illegible]		

[illegible] These figures [illegible] subjects [illegible] experiment [illegible] The [illegible] corresponding [illegible] Sound associations [illegible] egocentric [illegible] degree of personal interest [illegible] does appear [illegible] statement [illegible] For the [illegible] experiment [illegible] an experiment [illegible] present [illegible] but based on specially collected material

[illegible]

of age, educated

ASSOCIATIONS	NUMBER	ASSOCIATIONS	NUMBER
SPECIAL QUALITY	[illegible]	SPECIAL QUALITY	[illegible]
Grouping	6	Egocentric reaction	15
Predicative relationship	49	Perseveration	
Causal relationship	1	Repetition of reaction	14
Co-existence	28	[illegible]	[illegible]
Identity		Same [illegible]	[illegible]
Linguistic-motor forms	20	Alliteration	10
		Consonance	10
Word-completion	—	Same ending	1
Sound			
Rhyme	1	Internal associations	56
Indirect	1	External associations	[illegible]
Meaningless	1		
Failures		Sound reactions	1
Repetition of stimulus-word			
		Number of associations	78

[illegible] type [illegible] examples of it.

[illegible] phrases [illegible] The experimen[illegible] [illegible] words [illegible]

[illegible] associates [illegible] emotionally charged [illegible] stupid).

The average pre[illegible] internal associations [illegible] The [illegible] type [illegible] does not [illegible] the strongly subjective character of subjects 6, 7, and 8.

[illegible] The pre[illegible] [illegible]

[illegible]

SPECIAL QUALITY	[illegible]	[illegible]	Extern[illegible]	
			[illegible]	Mean[illegible]
[illegible]	4	19	18	26
[illegible] relationship	37	37	38	34
Causal relationship	5	2	2	—
Co-existence	26	14	14	14
Identity	1	3	4	12
Linguistic-motor forms	25	23	20	18
Word-completion	·		2	·
Sound	—	—	—	
Rhyme	—			—
Indirect	—			—
Meaningless	—	—	—	
Failures	2	2	2	·
Repetition of stimulus-word	—	—	—	—
Egocentric reaction	3	4	—	
Perseveration	2	1		—
Repetition of reaction	13	10	6	4
Same grammatical form	29	33	20	46
Same number of syllables	38	34	56	54
Alliteration	10	6	8	16
Consonance	15	10	10	20
Same ending	3	8	8	16
Internal associations	46	58	58	56
External associations	52	40	38	44
Sound reactions			2	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible] ASSOCIATION	[illegible]		[illegible] DISTRACTION		
			External		
SPECIAL QUALITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Grouping	8	16	6	10	12
Predicative relationship	[illegible]	17	38	34	30
Causal relationship	3				[illegible]
Co-existence	14	13	10	4	12
[illegible]	3		8	13	6
Linguistic-motor forms	31	35	28	20	30
Word-completion	—	—		—	1
Sound	2	—	—	4	1
Rhyme	—	—	2		1
Indirect	1	1	—		2
Meaningless				4	2
Failures	8	6	6	10	3
Repetition of stimulus-word			2	—	1
Egocentric reaction	9	2		4	3
Perseveration			[illegible]	2	[illegible]
Repetition of reaction	16	5	28	14	28
Same grammatical form	48	51	44	42	48
Same number of syllables	36	33	46	40	41
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
Consonance	7	9	14	12	13
Same ending	5	8	18	16	18
Internal associations	49	33	44	44	42
External associations	48	39	46	38	48
Sound reactions	1	–	2	4	2
Number of associations	100	100	50	50	100

[illegible]

very intelligent, educated, well-read

SPECIAL QUALITY	[illegible]	[illegible]	SPECIAL QUALITY	[illegible]	[illegible]
Grouping	5	4	Egocentric reaction	6	5
Predicative relationship	56	35	Perseveration	1	
Causal relationship	8		Repetition of reaction	5	
Co-existence	[illegible]		[illegible]		
[illegible]			[illegible]		[illegible]
Linguistic-motor forms	28	50	Alliteration		[illegible]
			Consonance	[illegible]	[illegible]
Word-completion	8		[illegible]		
Sound					
Rhyme	—	—	Internal associations	68	34
Indirect	[illegible]	—	External associations	32	65
Meaningless					
Failures			[illegible]	4	
Repetition of stimulus-word					
			Number of reactions	96	96

[illegible] appear later.[17]

8 [illegible]

[illegible] "Symptom," infra.]

[illegible] mother

	Internal Association	External Association
Mother	5%	43.5%
Daughter	9.6%	55.5%

[illegible] agreement [illegible] therefore urgently requires retesting.

[illegible] particularly striking. [illegible] action type is objective.

[illegible] very awkward.

[illegible] obtained for external reasons.

Summary of the Group of Educated Women

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Predicative relationship		16	19	6	8
Causal relationship	1	[illegible]			–
Coexistence	34	18	18	22	6
Identity	7	6	9	4	10
Linguistic-motor forms	34	56	34	52	70
Word-completion				–	
Sound					
Rhyme	–	1	1	2	2
[illegible]					[illegible]
[illegible]					
Failures	–	–	4	–	2
Repetition of stimulus-word					
Egocentric reaction	–	–	–		–
Perseveration	1			2	–
Repetition of reaction	6	5	5	–	2
Same grammatical form	57	92	64	82	56
Same number of syllables	50	52	57	56	38
[illegible]	5	4			[illegible]
Consonance	16	18	12	26	13
Same ending	25	16	2	18	20
Internal associations	25	19	34	18	10
External associations	75	80	61	78	86
Sound reactions		1	1	2	2
Number of associations	100	100	100	50	50

S[illegible] [illegible] Ab[illegible] [illegible] years [illegible] [illegible] [illegible] all [illegible]

ASSOCIATIONS	NORMAL		DISTRACTION	
			External	
SPECIAL QUALITY	1st Hundred	2nd Hundred	60 Metronome	100 Metronome
Grouping	11	21	22	10
Predicative relationship	18	19	20	14
Causal relationship	5	1	2	
Co-existence	10	10	16	20
Identity	3	12	16	15
Linguistic-motor forms	46	31	44	51
Word-completion	—	1	—	—
Sound	·			
Rhyme	—	1	—	—
Indirect	—	—	—	—
Meaningless				—
Failures	5	—	6	—
Repetition of stimulus-word		4	4	6
Egocentric reaction		—		
Perseveration	—	—	—	—
Repetition of reaction	9	11	4	2
Same grammatical form	61	50	56	58
Same number of syllables	3	43	42	42
Alliteration	8	8	8	6
Consonance	10	14	8	14
Same ending	21	11	18	16
Internal associations	34	41	44	24
External associations	59	55	46	70
Sound reactions	—	2		—
Number of associations	100	100	50	50

[illegible]

SPECIAL QUALITY	[illegible]	[illegible]
Grouping	29	9
Predicative relationship	1	[illegible]
Causal relationship	—	1
Co-existence	5	18
Identity	3	13
Linguistic-motor forms	34	6
Word-completion	—	1
Sound	2	—
Rhyme	1	2
Indirect		
Meaningless	—	—
Failures	—	8
Repetition of stimulus word	—	
Egocentric reaction		
Perseveration	—	
Repetition of reaction	4	
Same grammatical form	95	69
Same number of syllables	59	40
Alliteration	10	9
Consonance	16	21
Same ending	24	7
Internal associations	30	[illegible]
External associations	67	75
Sound reactions	3	3
[illegible]	[illegible]	[illegible]

[illegible] experiments were carried out [illegible] subjects [illegible] cases [illegible] in three cases only externally was attained [illegible]. External distraction was [illegible] successful in four cases [illegible]. One case of internal and one of external distraction were partially successful.

6[illegible] [illegible] are [illegible] [illegible] ternal association over external.

II. EDUCATED MEN

Nine subjects with 3,793 associations

6[illegible] [illegible] different states [illegible] and external [illegible] [illegible] experiments [illegible] [illegible] ternal associations, on the other hand, the progression [illegible] reactions illustrates the increasing [illegible] experiment [illegible] change in type [illegible] after internal [illegible] were [illegible] [illegible] experiments were [illegible] [illegible] As the figures [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	Externa		[illegible]	[illegible]	[illegible]
[illegible]			[illegible]					
Predicative relationship	6	6	19	0	4	0.5	5	2
Causal relationship								1
Co-existence	18	5	6	8	14	14.1	14	
Identity	6	8	5	10	3	2.5	5	2
Linguistic-motor forms	54	58	56	46	54	53.8	40	51
Word-completion	1	—	8	4	12	2.5	2	2
[illegible]			[illegible]		2		1	
Rhyme	4	4	1	2	8	2.5	20	21
Indirect	2	3	1	1	4	—	2	2
Meaningless	—	—	—	2		3.8		·
Failures					—	—	—	—
Repetition of stimulus-word						—	—	—
Egocentric reaction	1		5				—	—
[illegible]			[illegible]	[illegible]			1	
Repetition of reaction	5	5	2	6	3	6	9	2
Same grammatical form	74	47	47	54	46	62	59	60
Same number of syllables	53	45	49	46	48	41	61	58
[illegible]			5					
Consonance	15	29	16	20	20	5	32	36
Same ending	19	5	9	18	18	14	33	36
Internal associations	15	20	33	20	16	20.4	7	9
External associations	78	65	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Sound reactions	5	4	1	2	22	5	27	32
Number of associations	100	100	100	50	50	78	78	78

* [illegible]
Originals; those in each category were numbered separately.

carelessness [illegible] sound reactions are extremely numerous, particularly the rhymes. The figures for [illegible] be [illegible]. This reaction type shows the reaction [illegible] mechanisms [illegible] were complete [illegible] is entirely [illegible] means there is merely a decrease of active attention towards the end [illegible]. As far as we [illegible] attention [illegible] person [illegible] sleep [illegible] a reaction [illegible] would be the only result [illegible] would have the same [illegible] a case that proves this to be so.

69 [illegible] subject N was deeply disturbed [illegible]. One [illegible] was an almost complete lack of ability to concentrate. She kept the cause of her [illegible]. In the experiment, to which she submitted out of [illegible] interest, she produced, apart from a few [illegible] senseless reactions, mainly sound and rhyme reactions.

70 We should like to compare this case with [illegible] experiment spread out over several days. [illegible] complex [illegible] withdrawal is conscious. As the subject [illegible] at the beginning of the experiment certain strongly charged ideas belonging to the complex were in her mind, which she [illegible] tried to suppress, because she feared they might betray themselves in the reactions. From the second [illegible] of the experiment [illegible] only the feeling-tone of the complex [illegible]. The next [illegible]

[illegible] Prozess," para. 77 ff. (ch. 2).]

[illegible] by the sense.

[illegible]

[illegible] cases a predicative relationship.

[illegible]

[illegible] repressed [illegible] The following case will illustrate this.

Subject 6. Here we [illegible] tual disappearance of the sound reactions.

This [illegible] experiment [illegible] present [illegible] perhaps fortuitous.

A [illegible]

[illegible]

ASSOCIATIONS	NORMAL		DISTRACTION			
				External		
SPECIAL QUALITY	1st hundred	2nd hundred	[illegible]	[illegible] Part	[illegible]	[illegible]
Grouping	16	15	18	22	[illegible]	[illegible]
Predicate relationship	6	5	6	8	[illegible]	4
Causal relationship				4	2	
Co-existence	4	6	8	14	8	5
Identity	6	8	2	[illegible]	[illegible]	6
Linguistic motor forms	51	45	[illegible]	[illegible]	58	[illegible]
Word-completion	2	1	–	–	–	2
Sound	8	10	24	6		[illegible]
Rhyme	1	3				2
Indirect	6	6	10	4		1
Meaningless	–	1	–	–	–	–
Failures						
Repetition of stimulus-word	–	–	–	2	–	–
Egocentric reactions	–	–	–	–	–	5
Perseveration	1					
Repetition of reaction	5	15	8	4	6	10
Same grammatical form	75	63	62	70	74	58
Same number of syllables	48	37	42	48	56	41
Alliteration	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]
Consonance	25	23	38	24	16	24
Same ending	14	12	10	10	12	10
Internal associations	22	20	18	36	24	18
External associations	61	59	48	52	76	66
Sound reactions	11	14	24	6	–	28
Number of associations	100	100	50	50	50	78

[illegible] and consequently reproduce [illegible] the first association [illegible]. These can only be partially [illegible] and sounds of our [illegible] associations [illegible] closest [illegible] the perception of [illegible] the experiment [illegible] normal [illegible] can be explained without difficulty.

The [illegible] increases in the [illegible] distraction experiments. The [illegible] experiments [illegible] concentrated on the D [illegible] distraction phenomenon was excellent, as was the reporting of it. We therefore have [illegible] reason [illegible] case [illegible] assume [illegible] distraction of attention [illegible] experiment [illegible] this experiment [illegible] attributed to decrease of attention [illegible] from the one in the experiment under normal conditions [illegible]. It is not an attitude-phenomenon.

154 External distraction has a disturbing effect on [illegible] attention [illegible] subjects and therefore causes [illegible]. In the present case the effect appears to be the opposite. The normal [illegible] this case is characterized by the attitude phenomenon; a [illegible] aspect. Now this attention is disturbed by external distraction and the subject now has a different relation to the stimulus-word [illegible] observation [illegible] the [illegible] is disturbed and thus the [illegible] the nearest [illegible] association is prevented. The associations [illegible] always repressed under normal conditions [illegible] back [illegible] repressed [illegible] then the next ones [illegible] must be the associations [illegible] by the meaning of the stimulus [illegible] the number of [illegible] associations must [illegible]. That is the case here.

The figures for [illegible] agreement with [illegible] external distraction [illegible] external [illegible] fatigue. This was actually [illegible] the case. The fatigue was [illegible] severe [illegible].

Here again we have an [illegible]. The [illegible] was apparently [illegible] this state [illegible] perhaps be [illegible] from [illegible] the subject [illegible] slightly fatigue [illegible] excitation [illegible] also [illegible] a part in general. Under excitement the speech mechanism very easily responds to inappropriate stimulus. This is also [illegible] items [illegible] case with the social attitude resulting in a greater number of purely mechanical connections.

As can be expected [illegible] the personal and subjective element [illegible] of the reactions gradually recede with few exceptions.

Subject [illegible] internal associations predominate [illegible] particularly prominent, and have an almost exclusively objective character. As the number of egocentric reactions shows relatively few [illegible] aspects appear. But the predicate types also present [illegible] larger [illegible] Secondly, there is [illegible] number of [illegible] linguistic reactions. The [illegible] very [illegible] during the experiment, there is [illegible]

Subject 17. About 26 years of age, intelligent

ASSOCIATIONS	NUMBER		ASSOCIATIONS	NUMBER	
SPECIAL QUALITY	1st Experiment	2nd Experiment	SPECIAL QUALITY	1st Experiment	2nd Experiment
Grouping	3	9	Egocentric reaction	5	8
Predicative relationship	29	26	Perseveration	5	
Causal relationship			Repetition of reaction	9	5
Coexistence	21		Same grammatical form	[illegible]	[illegible]
Identity	—	10	Same number of syllables	44	46
Linguistic-motor forms	41	41	Alliteration	6	4
			Consonance	14	9
Word-completion	2	4	Same ending	2	13
Sound	—	—			
Rhyme		2	Internal associations	32	35
Indirect	2	2	External associations	62	56
Meaningless	—	—			
Failures	2	1	Sound reactions	2	6
Repetition of stimulus-word			Number of reactions	[illegible]	[illegible]

[illegible]. Apart from these, there are the following perseverations:

1. stove	warm	4. water	to bathe
2. to walk	hot	5. to dance	to sweat
3. (	)		

[illegible] [illegible] subject, a [illegible] years old, [illegible] posed [illegible] the experiment [illegible] conditions. [illegible] experiment [illegible] could not be carried [illegible] because of illness. The [illegible] associations carried [illegible] were [illegible] after [illegible] night without sleep.

[illegible] [illegible] shows a striking agreement: a most definite decrease of inner associations, increase of external [illegible] sound associations [illegible] increase [illegible]. [illegible] remained [illegible]. In the first [illegible] the experiment [illegible] there is a [illegible] external associations [illegible]; in the second [illegible] the relationship is reversed [illegible]. The [illegible] increase of word [illegible] and sound reactions in the experiment [illegible] strate[illegible] are [illegible] separ[illegible] of the [illegible] associations. We find:

1st third: 2 word-completions, 6 sound reactions
2nd third: [illegible]
3rd third: [illegible] sound reactions

[illegible] The predicates are already [illegible] the decrease [illegible] of the experiment [illegible] [illegible] disappear completely [illegible] R[illegible] more pronounced [illegible] [illegible].

CONSTELLATIONS AND COMPLEXES

[illegible] In [illegible] a relatively [illegible] number of associations can be explained only by reference to individual experiences [illegible] past or present, e.g. [illegible] at the time of the experiment [illegible] had been found in the garden of the establishment where the subject worked and its owner had not been found.

Subject 18. 36 years of age

[illegible]	[illegible]			
SPECIAL QUALITY	[illegible]	[illegible]	INTERNAL DISTRACTION	FATIGUE
Grouping	24	14	7	4
Predicative relationship	23	13	11	
Causal relationship		3		–
Co-existence	15	12	5	9
Identity		8		
Linguistic-motor forms	28	39	31	20
Word-completion	1		16	16
Sound	2	4	20	27
Rhyme			2	15
Indirect	7	6	7	6
Meaningless		1	1	1
Failures	–	–	–	
Repetition of stimulus-word				–
Egocentric reaction	[illegible]	1		
Perseveration	3	–	1	[illegible]
Repetition of reaction	2	–		
Same grammatical form	48	57	45	4
Same number of syllables	33	30	47	53
Alliteration	15	[illegible]	[illegible]	[illegible]
Consonance	18	27		[illegible]
Same ending	6	1	[illegible]	[illegible]
Internal associations	47	30	18	4
External associations	43	59	36	29
Sound reactions	3	4	38	58
Number of associations	100	[illegible]	[illegible]	[illegible]

[illegible] On *clothes*: *Nagler*. A patient by the name of Nagler, who was in the care of this particular colleague, worried him greatly because, for example, he ordered clothes and afterwards always found so much to criticize in them that he finally would not wear the garment; there were endless unpleasantnesses with the tailor and other suppliers.

[illegible] On *pencil*: *Kohinoor*. Our colleague had at the time of the experiment just learned about the useful properties of this brand of pencil.

[illegible] On *merchant*: *Kaufmann*. Our colleague had at this time to give an opinion on a defendant by the name of Kaufmann who had committed [illegible] when intoxicated.

[illegible] This type of association is [illegible] constellations (Ziehen), referring to relatively new, subjective, possibly emotionally charged experiences.[28]

[illegible] In some subjects, e.g., students and [illegible] uneducated women, we find none at all or only very few. Such persons react throughout entirely [illegible] in the associations. For example, they associate: [illegible] *to bite, prison: punishment*, etc.

[illegible] A number of other subjects also make objective associations. In these, however, there are among them associations which in spite of their objectivity allow conclusions about the subject, although he does not in this case betray his inner personality. It would not be difficult, for instance, to recognize the male nurse from the following complex of associations: subject, an uneducated man: [illegible] etc.

[illegible] Nevertheless, the [illegible] in these associations.

[illegible] Then there are subjects that, so to say, associate [illegible] individual experiences predominate, [illegible]

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[28] We know of course that no reaction is formed without cause, that each one, even the most objective, is caused by definite constellations. It makes, however, a great difference whether, e.g., *murderer* is associated with *Meyer* and thus points to a

lake [illegible]	[illegible] been to that lake)
father	[illegible] a grandfather)
[illegible]	[illegible] the subject had [illegible] mountain once, without the journey having had any special meaning for him.
hair	[illegible] prepares a hair-lotion in the dispensary for the patients)
[illegible]	[illegible] all important to the subject)
friend	[illegible] from Basel to Heidelberg
[illegible]	*Brazil* [illegible] subject had [illegible] drunk Brazilian coffee)

91 These are mainly subjective [illegible] reminiscences [illegible] constellations [illegible] first mentioned [illegible] educated men. [illegible] with many constellations usually also have many reminiscences (e.g., subjects 18 and 19, educated men).

92 A separate group of constellations arises in some individuals through the influence of the immediate surroundings in which the experiment [illegible] *pencil* [illegible] *paper* [illegible] etc. [illegible] the consulting room even if they are associated with a [illegible] stimulus-word. The subject does not necessarily need to see the objects but only to know that they are in the room (see subject 25, uneducated women).

93 From [illegible] cases of this type of association are known to us.[21]

94 If the stimulus-word evokes a subjective emotionally stressed

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[illegible] general thought. The difference we stress [illegible] the designation "constellation."

[20] *Süsskind*, literally "sweet child."]

[21] See Jung, "On Simulated Insanity."

image which the corresponding reaction [illegible] then we get a special type of distraction [illegible] exactly the [illegible] as in Part I. In [illegible] we find [illegible] a few, e.g. [illegible] subject [illegible] thinking [illegible] examples [illegible] neighbour. Or [illegible] the egocentricity of this reaction is readily understandable for a [illegible] person who is looking forward [illegible] approaching [illegible] days.

In some cases a egocentric reaction can be directly replaced by a [illegible] reaction [illegible] see [illegible] in Part I. It is not true that there is no reaction at all [illegible] through a [illegible] the reaction word does not get as far as being spoken. This is probably the origin of all failures, but certainly of the majority.

Cases, for example, that fail with stimulus words bordering on sex and themes, e.g. [illegible] to kiss, to stroke, [illegible] etc. Often it does not [illegible] a failure [illegible] takes a relatively long reaction time, so that the experimenter after some experience [illegible] behind the [illegible] seemingly [illegible]

The associations wedding, unhappiness, to kiss, [illegible] and others [illegible] significance: the subject was at that time in a state of suspense and anxious longing.[21]

Now it is possible that a emotionally charged complex of ideas becomes so preponderant [illegible] and has such a [illegible] influence that it forms a large number of [illegible] reactions and reactions with long [illegible] referring to this complex of ideas. [illegible] group [illegible] educated [illegible] give us an opportunity [illegible] to this special form of [illegible] the majority [illegible] complexes operating in the association experiments relate to [illegible] sexuality. In the work on the associations of [illegible] we shall return to the effect of the complex.

In subject 18 of this group we can see, besides many [illegible] in the first hundred under normal conditions, [illegible] in the second hundred, one under [illegible] in fatigue. In the experiment un-her normal [illegible] the names of celebrated people, e.g. [illegible] *Napoleon*, [illegible] *Faust*. Her [illegible] is the same as that of a [illegible] *Zahn* [illegible] consonance [illegible] the poet Zahn.

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[21] Well known phrase *Hangen und Bangen*, from one of Schiller's poems.]

209 The [illegible] also expresses the [illegible] with [illegible] this group. [illegible] are on the increase owing to a large [illegible] e.g. [illegible] subject [illegible] Several associations of the [illegible] a proper name; the reaction is associated [illegible] as [illegible] through an internal connection [illegible] *Stapfer* [illegible] purely sound [illegible] (*Stahl* [steel] / *Stapfer*).

210 Subject [illegible] Physician, 2[illegible] years old. Fatigue was defined as the condition of the subject after ten hours' work or the evening after a full working day.

211 The [illegible] between internal and external associations is [illegible] in the different experiments. The maximum of external associations [illegible] is found in [illegible] larger than the figure in the first [illegible] under normal conditions [illegible] per cent. This maximum of external associations corresponds to a minimum [illegible] reactions.

212 In [illegible] process is larger [illegible] external. The first fifty associations with external distraction were [illegible] with [illegible] beat [illegible] the second fifty with a beat of [illegible] and the last eighty-[illegible] associations with a beat of [illegible] Internal distraction corresponds [illegible] a maximum [illegible] the columns for sound reactions, same number of syllables, same grammatical form, alliteration, and consonance.

213 In external distraction the sound associations decrease progressively and the indirect associations rise progressively, a proportion that we shall then meet again in distraction experiments. In the last third of the experiments with internal distraction [illegible] as [illegible] In this [illegible] the number and intensity of visual images decrease, while the sound associations increase, as follows:

1st third: 9 sound associations
2nd third: 6 sound associations
3rd third: 18 sound associations

Subject 19. Physician, 25 years of age

ASSOCIATIONS	NORMAL		DISTRACTION				
SPECIAL QUALITY	1st Hundred	2nd Hundred	Internal	External 60 Metronome beats	External 90 Metronome beats	External 108 Metronome beats	FATIGUE
Grouping	19	27	14	20	20	–	20
Predicative relationship	9	20	10	14	6	10	19
Causal relationship	–		2			2	
Co-existence	1	13	8	2	2	6	6
Identity	5	10	7		2	10	6
Linguistic-motor forms	41	17	30	34	32	40	50
Word-completion	3	–	–	–	2	1	1
Sound	6	6	27	30	14	5	1
Rhyme	–	–	1	–	–	1	–
Indirect	6	5	6	12	12	18	–
Meaningless	–	1	1	–	10		1
Failures	–	–	–	–	–	–	–
Repetition of stimulus-word		–		–	–		
Egocentric reaction			2	2	8	–	–
Perseveration	–	4	–	2	2		1
Repetition of reaction	3	2	3	4	8	21	8
Same grammatical form	60	59	66	52	54	50	50
Same number of syllables	28	27	50	46	46	36	37
Alliteration	14	14	38	36	18	15	8
Consonance	[illegible]	24	13	28	[illegible]	[illegible]	20
Same ending	11	9	11	4	4	9	6
Internal associations	28	48	23	32	26	12	34
External associations	57	40	45	38	56	58	61
Sound reactions	9	6	28	20	16	7	2
Number of associations	101	100	[illegible]	50	[illegible]	85	8

405 The number of perseverations fluctuates within the normal limits. We give as example

fidelity — person
once — merry *(heiter)*

The [illegible] tion of "faithful." Here is another example:

fruit — Thurgau
false — Falk (falcon)

The [illegible] Thurgau [illegible] Mr. Falk [illegible] existence with the first. And, for instance:

to love — Stern (star)
son — Isaac

Stern is a [illegible] The association to Stern is internal.

Alt — Uchtspringe
Freiheit (Freedom) — at the Altmann

[illegible] word only by sound:

		Visual image
malt (*Malz*)	painter (*Maler*)	brewery
[illegible]	[illegible]	[illegible]
spring (*Quelle*)	the house at the fountain	in a district where there was always a strong smell of malt, the subject had often seen malt carts in his youth

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[23] Dr. Konrad Alt (1861–1922) was director of a mental hospital at Uchtspringe, Saxony, renowned for its advanced methods. The [illegible]

After the first reaction [illegible] the subject [illegible] repeat his [illegible] each [illegible] word [illegible] and [illegible]. While forming associations his attention was directed much more [illegible] to sound associations [illegible]. For similar reasons we find [illegible] forgetting [illegible] much more frequently in pathological cases of emotional stupidity and hysteria.

COMPLEX PHENOMENA AND THE UNCONSCIOUS

208 Going through [illegible] the associations [illegible] the experienced [illegible] complex phenomena [illegible] are very [illegible] comparison [illegible] where complexes play a large [illegible]. In [illegible] reaction times were [illegible] subject 19 now being used.

The material used here is derived not only from experiments on subject 19 [illegible] previously in [illegible] work but also from some earlier ones. What we [illegible] was the following (starred: not used in this work):

On Sept. 17	78 associations without fatigue*
Dec. 27	[illegible] associations [illegible] fatigue*
Dec. [illegible]	[illegible] 8 associations [illegible]
Feb. 22 (foll. year)	156 associations in fatigue*
Aug. 19	200 associations without fatigue
Aug. [illegible]	[illegible] associations [illegible] distraction
Aug. [illegible]	[illegible] associations [illegible] distraction

The [illegible] experiments [illegible] on a [illegible] young woman. [illegible] experiences [illegible] had not yet [illegible] had had a strict Christian upbringing [illegible] Jewish [illegible] a great deal. Let us call her Alice Stern; we shall be keeping as near the truth as is necessary for the experiment. In the experiment on September [illegible] we find the following complex constellations:

1	wedding	misfortune
2	come	come with me
3	to suffer	oh heavens—yes!
4	misery	[illegible] miserable [illegible]

5.	to kiss	[illegible]
6.	game	sweet games which I play with you
7.	sofa	a particular chaise-longue (in the drawing-room of the young woman)
8.	to love	is useless
9.	fidelity	sweet heart
10.	wreath	bridal wreath (thought of with the appropriate melody)[24]
[illegible]	[illegible]	[illegible] with us loving and comforting

N[illegible] 8 are [illegible] ternal form is a negation. Numbers 2, 4, 6, 10, and 11 are [illegible] from songs [illegible] of number 2, a quotation from the *Erlkönig*.

[illegible]

[illegible]

and quo[illegible] the associations [illegible] Thus [illegible] had only (to his shame, it might be said) salvaged from the [illegible] fragment [illegible] games [illegible] I play with you [illegible] melody.[26] Of the *[illegible]* [illegible] We shal[l] [illegible] although [illegible] the whole [illegible] commercial associations [illegible] and [illegible] 26, uneducated women.)

[illegible] first expe[riment] [illegible] among others these associations.

[illegible]	"[illegible] It is a hard one
you	yes [illegible]

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[24] [The song "Wir winden dir den Jungfernkranz," from Weber's opera *Der Freischütz*.]

[25] [In German: *müssen* (: "Kein Mensch muss müssen." The quotation is from Lessing's *Nathan der Weise*.]

[26] [In the original, he misquotes even this fragment.]

3	parting	is painful
4	star (Stern)	him
5	game	amusement (with long reaction-time)
6	[illegible]	[illegible] the reaction, it would have been Stern)

[illegible] ring suddenly, is suspicious.

[illegible] the experiment of December 2[illegible] the following associations taken in their context are striking:

1	to kiss	yesterday
2	to love	yesterday
3	[illegible]	yesterday [illegible] [Tränen] had preceded it, the subject thought she heard schön beautiful, we might have here a perseveration of the umlaut)
4	miracle	yesterday
5	to pray	yesterday

[illegible] reactions [illegible] usually quite short. The subject [illegible] taken into answers. In the whole experiment [illegible] reaction was repeated except [illegible] feeling [illegible] the other experiments, too, repetitions are rare.

All the stimulus words quoted belong to those with a [illegible] connection with the complex Stern. [illegible] preceded by kiss, to love. As we recall, examples 4 and 5 [illegible] connected with the complex religion [illegible] and [illegible] are not to be regarded as a [illegible] whether the [illegible] had per[illegible] this second [illegible] or whether this word has [illegible] connection with the fact that this experiment took place immediately after the Christmas holidays, during which the subject had been tremendously pleased by a small present from the young man. But the fact that this word and this sound [illegible] repeated in the experiment as a reaction to [illegible] there is not a single one.

[illegible]

[illegible] like Lore best (the vowel o occurs in the [illegible] real first name of the young woman; the two names are very similar in sound)

dog (*Hund*) (apparently senseless reaction)

[illegible] ram (*Hammel*)

[illegible] perseveration [illegible] ions of August 19 is comprehensible:

to love — Stern (star)

[illegible]

[illegible] above. The following associations also occur:

[illegible]	the Star (*Stern*) (the subject was aware of the complex here)	to part	hurt
		to cut	hurts
		to stroke	hurts
to kiss	together	to beat	hurts
to love	roses	to sing	hurts

[illegible] repetitions [illegible] effect of the complex.

Otherwise only a few repetitions occur.

222 In the distraction experiment there is [illegible] of the complex.

223 [illegible] In the second half of the experiment under normal conditions,

1. the internal associations increase from 49 per cent to 54 per cent, while the external decrease.
2. the sound reactions increase from 2 per cent to 6 per cent.
3. the perseverations rise from 6 per cent to 8 per cent.
4. the egocentric reactions rise from 14 per cent to 27 per cent.
5. [illegible]
6. the repetitions rise from 6 per cent to 15 per cent.

224 The following are the [illegible] average [illegible]

Internal associations

Subject 30. Science teacher, 35 years of age

ASSOCIATIONS SPECIAL QUALITY	NUMBER 1st half	NUMBER 2nd half	ASSOCIATIONS SPECIAL QUALITY	NUMBER 1st half	NUMBER 2nd half
Grouping	19	21	Egocentric reaction	14	27
Predicative relationship	28	39	Perseveration	6	8
Causal relationship	2	1	Repetition of reaction	6	15
Coexistence	5	2	Same grammatical form	[illegible]	26
Identity	—	—	Same number of syllables	28	15
Linguistic-motor forms	20	9	Alliteration	5	6
			Consonance	8	14
Word-completion	2	5	Same ending	1	—
Sound	—	1			
Rhyme		—	Internal associations	49	54
Indirect	—	—	External associations	35	21
Meaningless	1	5			
Failures	10	11	Sound reactions	2	6
Repetition of stimulus-word	—	—	Number of associations	78	78

perseverations,
egocentric associations,
failures.
and the predicates [illegible] the second [illegible] averages.

355 The [illegible] reactions are [illegible] halves; there are no indirect associations.

356 The figures given above [illegible] that the subject's reactions very [illegible] a strong complex [illegible] presumed [illegible]. The high number of perseverations [illegible] per cent and [illegible] makes this very probable. On analysis they predominantly refer to [illegible] and [illegible]. The subject [illegible] complex [illegible] plays a preponderant role in his reactions, particularly [illegible] the second half, where the subject's perseverations are in any case more numerous.

357 In the first half:

[illegible] per cent of the reactions refer to [illegible] and [illegible] per cent to the bride complex.

In the second half:

[illegible] per cent of the reactions refer to [illegible] 24 per cent to the bride complex.

358 In addition two of the three failures in the first half and the majority of failures in the second half refer to the bride complex, e.g. the failures after the stimulus-words *to* [illegible], *to suffer, to kiss.*

359 Apart from this the complex is expressed less [illegible] than in the preceding subject; it is less repressed and does not [illegible] song [illegible] as well as the former subject. The [illegible] are closely connected [illegible] subject [illegible] as [illegible] that he would soon be married and his wife would [illegible] an important position in the [illegible].

360 Among the [illegible] repetitions in the first half the name of [illegible] occurs four times, [illegible] important [illegible] the name of the fiancée three times. In the second half the name of the fiancée occurs seven times in the reactions, the word [illegible] the subject [illegible] the girl [illegible] future [illegible]. The other repetitions [illegible] second [illegible] three times the subject was annoyed at the [illegible] nonsensical stimulus-word and each time reacted angrily with "Rubbish!"

231 The perseverations, with two exceptions, concern school and family affairs.

232 Finally, a few examples of these complex associations:

grandmother	S. will be S. as the name of his fiancée
cross	I as a teacher, according to S.
to come	written to S.
year	we marry in (two years)
Sunday	S. comes
to kiss	(subject will not react)
naturally	(subject will not react)
to love	S.
tears	she cried (S.)
fidelity	S.
once	S.
hope	that we can marry
small	child
to pray	small I never imagined having children,
dear	child
where?	in bed
old	S.
ring	at betrothal
to stroke	(will not react at first) S.
child	my future (one)
sweet	a bar of chocolate I received from S.
to ride	M., home of fiancée, where she used to ride
friendly	S.'s family
three	members of the family (there are three in S.'s family)

233 The bracketed stimulus-words followed each other immediately in the experiment.

234 With the increase of the subject's emotional excitement in the course of the experiment the value of the individual reactions also increases, as the figures show.

235 Subject No. 2.[1] In the second hundred reactions of the experiment under normal conditions we find a maximum of coordinations, predicative relations, and internal associations generally, while the external associations diminish greatly. This maximum also covers the perseverations and egocentric associations

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[1] The reactions of this subject are given in detail in the section on Calculations of Averages, Complex-Constellation, below, pars. 490ff.

Subject 21. Physician, 33 years of age

ASSOCIATIONS	NORMAL		DISTRACTION		
				External	
SPECIAL QUALITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Grouping	19	20	7	12	8
Predicative relationship	18	42	26	20	14
Causal relationship		–	3	2	–
Co-existence	24	5	10	30	20
Identity	5	3	5	10	4
Linguistic-motor forms	29	25	22	12	38
Word-completion	–		–		–
Sound	2	3	18	4	6
Rhyme	–	1	–		–
Indirect	2	1	3	2	6
Meaningless	3	2	6	8	–
Failures		–		–	
Repetition of stimulus-word	–		–		–
Egocentric reaction	4	19	2		2
Perseveration	1	40	5	4	0
Repetition of reaction	8	8	8	4	4
Same grammatical form	58	26	32	68	42
Same number of syllables	34	22	35	50	50
Alliteration	12	8	9	12	10
Consonance	18	13	33	16	8
Same ending	6	5	2	–	
Internal associations	45	62	56	34	22
External associations	58	31	57	52	64
Sound reactions	2	4	18	4	16
Number of associations	100	100	100	50	50

[illegible] [illegible] the average figures [illegible] the [illegible] second [illegible] internal associations [illegible] perseverations and egocentric reactions, we [illegible] the average [illegible] the following table:

Predicates	32 [illegible]
Internal associations generally	[illegible]
Perseverations	[illegible] 1
Egocentric reactions	[illegible] 8

[illegible] the [illegible] figures deviate [illegible] from the average. [illegible] the second [illegible] complex reactions began at first [illegible] [illegible] the complex [illegible] [illegible] disappearing again [illegible] several hundred. [illegible] per cent complex constellations in the [illegible] of the experiment under normal conditions [illegible] under internal distraction [illegible] We have already found an increase [illegible] reactions [illegible] the second [illegible] of the experiment under normal conditions [illegible] The [illegible] complex [illegible] internal associations [illegible] a proof that [illegible] the stimulus-word [illegible] the significance of the stimulus-word.

[illegible] If attention is distracted from the experiment [illegible] charged complex, as for example [illegible] experiment [illegible] the phenomena that we have [illegible] internal associations decrease a[illegible] results [illegible] an experiment [illegible] external distraction.

Thus [illegible] the second [illegible] strong [illegible] were more numerous and perseverations [illegible] regularly appearing [illegible] a decrease of inter[illegible] That [illegible] are [illegible] the [illegible] the experiment [illegible] normal [illegible] changed [illegible] his great [illegible] significance.

[illegible] only rarely.

In [illegible] the average [illegible]

In the first group [illegible] external distraction experiments [illegible] same number [illegible] than [illegible] consonance (98 per cent).

Subject 22

[illegible] Decrease in [illegible] experiment [illegible] for normal [illegible] marked under distraction.

[illegible] Increase [illegible] Most predicates [illegible] the second hundred, as do the constellations.

[illegible] Increase [illegible] the [illegible] the distraction experiments [illegible] a maximum of linguistic-motor forms.

[illegible] Most frequent [illegible] the second [illegible] of the experiment under normal [illegible] there is an increase [illegible] of syllables [illegible] same ending.

In the second part [illegible] distraction experiments there is an

Subject 12. Chemist about 24 years of age

ASSOCIATIONS	NORMAL		DISTRACTION	
			External	
[illegible]	1st hundred	2nd hundred	60 Metronome	100 Metronome
Grouping	21	18	24	16
Predicative relationship	20	14	2	10
Causal relationship	2	2	–	2
Co-existence	18	11	16	16
Identity	5	9	24	10
Linguistic-motor forms	26	32	28	44
Word-completion	–	–	2	–
Sound	2	2	4	–
Rhyme	1	–	–	–
Indirect	2	1	–	2
Meaningless	1	1	–	–
Failures	2	9		–
Repetition of stimulus word	–	1	–	
Egocentric reaction	3	5	2	2
Perseveration	2	1		4
Repetition of reaction	11	12	8	2
Same grammatical form	37	54	86	70
Same number of syllables	36	34	58	42
Alliteration	7	5	8	8
Consonance	7	11	14	12
Same ending	9	8	24	12
Internal associations	43	34	26	28
External associations	49	52	68	70
Sound reactions	3	2	6	
Number of associations	100	100	50	50

on movement of reaction (perhaps [illegible] to getting used to [illegible]). There [illegible] slight increase of internal associations and predicates, absence of sound reactions, slight increase of [illegible]tions, slight decrease of same grammatical form and of same number of syllables, consonance, alliteration, same ending; on the other hand, increase of linguistic-motor forms and thereby of external associations. Perseverations also occur here most frequently.

[illegible] The constellations are clearly [illegible] conditioned by [illegible] the subject's profession. There occur:

In the 1st hundred normal conditions	44%
In the 2nd hundred normal conditions	[illegible]
In the 1st half of distraction	[illegible]
In the 2nd half of distraction	[illegible]

[illegible] The following perseverations caused by a complex are worthy of note:

1	lady	of the heart
	shoulder	blade
	[illegible]	on which [illegible] her pictures [illegible] situation
2	(square, *Platz*)	Town Hall
	lawn	(*b*[illegible] is presented [illegible] either, a definite story, with erotic significance for the subject, is linked with the Town Hall square)

[illegible] Failures appear in two forms: [illegible]; sometimes the [illegible] reaction fails and in its place there is a vivid visual image, for example, or a [illegible] emotionally charged sensation which the subject subsequently describes.

[illegible] In the [illegible] group there are [illegible] because certain erotic memories emerge.

[illegible] [illegible] constructions [illegible] failures occur. The egocentric reactions predominate in the experiment under normal conditions and refer mainly to erotic subjects.

[illegible] Of the repeated reaction words, [illegible] *high*, *good* and *beautiful* occur more than twice.

[illegible] *The [illegible] complex.* The erotic complex [illegible] a large number of reactions, a total [illegible] in the experiment under normal [illegible] and [illegible] in the second [illegible] under distraction [illegible] per cent under normal conditions and 20 per cent in the second half under distraction are demonstrable. In the first half where distraction is more complete we find none. The complex is hardly suppressed in the [illegible] test.

The progressive decrease of sound reactions in the course of the experiments [illegible] experiments and the increase of indirect associations is in keeping with our assumptions. (See "Averages.")

22 Subject 2. The figures show a very slight distraction phenomenon. The proportion of internal and external associations changes very little in the distraction experiment, so that the variation in the results of the two experiments in fatigue are greater than between normal conditions and distraction. On the other hand the sound associations increase under distraction, as with subject [illegible] of this group, [illegible] there are fewer sound reactions in fatigue.

228 The associations in fatigue were obtained from both subjects under very similar conditions: normal fatigue after a day's work, given at [illegible] o'clock in the evening, after a sleepless night [illegible] physical demands [illegible] preceded the associations in fatigue of subject 8 of this group. Here we find in fatigue an increase of sound reactions.

The negligible difference caused by distraction may in subject [illegible] be connected with the fact that the number of internal associations is already fairly low in the experiment under normal conditions, e.g. that is 46 per cent instead of [illegible] per cent as in the average of [illegible] men, and the number of external ones is fairly high, [illegible] per cent instead of [illegible] per cent, the average [illegible]. The number of internal associations in the experiment under normal conditions is roughly the same as the average number of internal associations under distraction [illegible] educated men.

The effect of fatigue is visible in the first fatigue experiment but not in the second.

2[illegible] The figures for alliteration and consonance in distraction are increased equally as with subjects 18 and 22 of this group.

The [illegible] of [illegible] is [illegible] above the mean [illegible] many words that are repeated [illegible]

Subject 21. Physician, 25 years of age

ASSOCIATION	NORMAL		DISTRACTION			FATIGUE	
				External			
SPECIAL QUALITY	1st Hundred	2nd Hundred	Internal	60 Metronome	100 Metronome	1st Experiment	2nd Experiment
Grouping	9	9	11	12	8	13	13
Predicative relationship	14	17	18	16	16	6	20
Causal relationship	1		–	–	–	–	1
Co-existence	24	7		8	14	7	[illegible]
Identity	5	19	8	2	10	9	5
Linguistic-motor forms	43	43	55	56	42	61	49
Word-completion	–	–	2	–	–	–	
Sound	–	3	4	6	2	1	
Rhyme	1			–	–	–	–
Indirect	2	1			4	1	–
Meaningless	1	–	2	–	4	1	
Faulty	–	–					–
Repetition of stimulus-word				–	–	–	–
Egocentric reaction	5	3				–	–
Perseveration	–		2	2			
Repetition of reaction	16	15	22	12	10	18	18
Same grammatical form	57	51	47	48	50	67	59
Same number of syllables	42	42	45	32	28	46	48
Alliteration	8	6	2	22	28	[illegible]	[illegible]
Consonance	14	10	28	26	38	21	14
Same ending	12	10	12	10	4	12	10
Internal associations	24	26	29	28	24	19	34
External associations	72	69	69	66	66	77	66
Sound reactions	1	3	6	6	2	1	
Number of associations	100	100	100	50	50	156	156

only very few that are then repeated [illegible] experiments [illegible] general [illegible] and similar words among the reactions. We shall [illegible] examine the [illegible] cases of repetition and perseveration [illegible] the [illegible] words [illegible] earlier cases. Nevertheless these do not entirely lack this background.

[illegible] are [illegible] between [illegible] a decrease [illegible] associations at the same time as a [illegible] associations [illegible] the second part of external distraction.

GENERAL REMARKS ON THE GROUP OF EDUCATED MEN

We [illegible] nine subjects, whose ages ranged from [illegible] associations. With [illegible] subjects the experiments were carried out with internal as well as external distraction [illegible] external distraction [illegible] cases no distraction experiment took place. With [illegible] subjects, associations in fatigue were also worked over [illegible] associations [illegible] drowsiness. All the subjects in this group have had [illegible] education. Six of them are physicians, one a [illegible], one a grammar school teacher, and one a chemist. All are German-Swiss.

[illegible] experiment [illegible]

The experiment with internal distraction was successful in [illegible] cases. The sharp increase of sound reactions is most characteristic. The increase of internal with decrease of external associations is less [illegible]. In one case [illegible] the result was unexpected [illegible] there was [illegible] of external associations [illegible] experiment [illegible] conditions.

External distraction was [illegible] successful [illegible] cases [illegible] effect was [illegible]. In general the effect of internal distraction is more [illegible] than that of external. These particular subjects all [illegible] succeeded [illegible] the experimental conditions for internal distraction.

291 The association [illegible] fatigue [illegible] in the five cases. In the case [illegible] particularly clear, but it is possible that perhaps fatigue was not the solely responsible [illegible] and [illegible] exciting experience during the sleepless night and probably [illegible] during the experiment.

292 The association experiment [illegible] with [illegible] also gave a [illegible] to the experiment.

293 [illegible] experimental [illegible] under normal conditions, extensive complex phenomena [illegible] first [illegible] we see that the internal associations increase [illegible] experiment under normal conditions [illegible] the opposite [illegible] At the same time we find an increase in the [illegible] tions. In the distraction experiment the complex-constellations usually decrease or disappear.

294 The subject need not be conscious of the complex phenomena and they often only emerge when the associations are subsequently statistically worked over and grouped. Thus lesser complex-phenomena may also be found in subjects who [illegible] complex-type [illegible] examples of association-types given in detail [illegible] where [illegible] several emotionally charged associations [illegible] appeared. Practically every [illegible] of reaction-time [illegible] normal limits of which the subject is not aware signifies, as far as we can at present see, that the particular stimulus-word has touched upon a feeling-toned complex. We shall describe these findings in a later communication.

III. UNEDUCATED WOMEN

Eight subjects with 2,400 associations[13]

295 Subject 2. The associations of this subject are given [illegible] among the examples of association types (see [illegible]). As

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[13] [illegible] carried out with any of the uneducated subjects.

Subject 24. Nurse, 18 years of age, Swiss, secondary-school education

ASSOCIATIONS	NORMAL		DISTRACTION	
			External	
SPECIAL QUALITY	1st Hundred	2nd Hundred	60 Metronome	100 Metronome
Grouping	33	20	16	14
Predicative relationship	23	37	20	22
Causal relationship	2	1	—	—
Co-existence	28	14	38	30
Identity	1	5	2	2
Linguistic-motor forms	23	23	14	30
Word-completion			—	—
Sound	—	—	6	2
Rhyme				—
Indirect	—	—	2	2
Meaningless				
Failures	—	—	—	—
Repetition of stimulus-word				
Egocentric reaction	3			
Perseveration	1	—	4	4
Repetition of reaction	11	9	14	2
Same grammatical form	60	53	68	58
Same number of syllables	36	44	48	46
Alliteration	6	7	4	[illegible]
Consonance	15	1	12	8
Same ending	5	6	10	8
Internal associations	48	58	36	36
External associations	52	42	54	62
Sound reactions	—	—	6	2
Number of associations	100	100	50	50

[illegible] it [illegible] occurs generally [illegible] we are reac[illegible] in the internal [illegible] and [illegible] the [illegible] gains [illegible] [illegible]s. The [illegible] internal associations [illegible] [illegible] in [illegible] [illegible] [illegible] the present [illegible] personal [illegible] [illegible] [illegible] experime[illegible]. We [illegible] this phenomenon several times.

[illegible] [illegible] [illegible] external associations [illegible] [illegible] [illegible]ciations [illegible] [illegible] [illegible] [illegible] [illegible] increased. Strikingly enough, perseverations are also more numerous.

[illegible] [illegible] [illegible] [illegible] as reactions [illegible] [illegible] predicate [illegible] [illegible] however, is [illegible] by a weaker [illegible] phenomenon. The subject [illegible] [illegible] and [illegible] [illegible]. The [illegible] one and the [illegible] [illegible] experiments [illegible] given the impression [illegible] [illegible] educated subjects. They are usually [illegible] [illegible] experiment and [illegible] [illegible] attention. The stronger the means of distraction, the more [illegible] [illegible]. We know that in this case the experimenter had a very strong [illegible] [illegible]. Emotions relating to the subject's complex [illegible] which were only recently assuaged [illegible] [illegible] [illegible] the reaction. The experiment was [illegible] complex that had [illegible] somewhat [illegible]. That is why we find a large [illegible] [illegible] experiments even in the distraction experiment, as [illegible] [illegible] the case.

The complex phenomena [illegible] a short explanatory [illegible] story. The subject had [illegible] [illegible] [illegible] [illegible] seventeen [illegible] [illegible] [illegible] [illegible]. Her [illegible] [illegible] anything of the relationship and [illegible] there was a scene during which he cursed her because she had dared [illegible] [illegible] accompanied by great terror and [illegible] illness [illegible] revived [illegible] [illegible]

The [illegible] association comes from the story of [illegible] temperature [illegible] working [illegible] day [illegible] later [illegible] the seeds [illegible] and working [illegible] a respected [illegible] as a [illegible] different background. In this case [illegible] the [illegible] as a [illegible] the experiment [illegible] parents [illegible] where is a [illegible] tree [illegible] by grass [illegible] and as [illegible] going [illegible] she [illegible] her [illegible] dream she was lying next to her [illegible] grass. She still [illegible] a dream [illegible] pleas[illegible] the [illegible] and her eyes [illegible] at the [illegible] Further [illegible]

at home [illegible] it's nice

[illegible] meaning [illegible]

once [illegible] I was happy

The subject [illegible]

Once I was so happy,
But now no more
Love, the magician, deceived me full sore

In the next three associations she remains [illegible] complex

once	I was happy
wonder	of love
blood	of expiation (thinks of her father's curse)
w[illegible]	[illegible] became ill and lost a lot of weight in the process [illegible] soon afterwards—she started to eat very little even with us and to lose weight till the matter was discovered [illegible] made [illegible] to her).

[illegible] evening shortly before the associations were taken. The association experiment gave rise to a further exacerbation of this unhappy memory; the effect persisted for some time. A product of the [illegible] reagent. These experiments are particularly rich in constellated subjects, and with her strongly affective and emotionally charged complex, it attracts and uses in itself as large a number of stimulus-words or [illegible] as possible. Now six months after the experiment the subject has a different attitude towards the complex, which, however, still strongly affects her. When then [illegible] the explanation she emphasized that she was bound to be unhappy because of her father's curse. She now no longer conceals the deeper erotic connections when she has to comment on her reactions. It is striking how exactly she still remembers every reaction she then gave.

The number of demonstrable complex-constellations is (in percentages):

	1st half	*2nd half*
Under normal conditions	15	2
With distraction	16	14

As already stated, we only rarely find complex-constellations under distraction and hardly ever to this extent. Naturally this one suffers severely with distraction. The maximum of complex-constellations in the second hundred under normal conditions is, as in other cases, explicable as a difference of attitude, the subject becoming familiar with the experiment.

Perhaps [illegible] the [illegible] is perhaps because it takes less effort. The complex expresses unpleasant feelings by quotations, such as [illegible], titles of songs, titles of stories, and such like. Quotations are frequently masks. We use them in every day life too in this sense. One sings certain songs in certain moods, often because one does not want to express the thoughts that underlie the feelings, so they become masked. Or the song [illegible] is used to exaggerate a momentary feeling; perhaps [illegible] to make a spark of feeling by this exaggeration. One need only think of [illegible] songs and poems to see the [illegible] [illegible] [illegible] festivals. Examples:

come [illegible] to the meadow

On [illegible] the subject [illegible] es of stories [illegible] refers to her complex:

seven   brothers

The Seven Brothers is the title of a story [illegible] rewarded." The association immediately following is:

[illegible]   my brother[1]

The [illegible] six [illegible] experiment [illegible] and all evidently refer to the complex.

We [illegible] already [illegible] examples [illegible] complex [illegible]. Others [illegible] e.g. [illegible] perseveration:

friendly	friendship
three	friends

The subject [illegible] intense need for friendship [illegible]. Here [illegible] her best friend married another girl.

[illegible] the experimenter [illegible] list [illegible]:

meadow	the orchard
to bring	the apples

We [illegible] these [illegible] from the same orchard.

One [illegible] perseveration [illegible] experiment [illegible] complex.

Repetitions [illegible] experiment [illegible] several times [illegible] five times [illegible] seventeen words belonging to the [illegible] plex. In the distraction experiments one hundred reactions there are altogether eight [illegible] words that occur several times (twice to three times). The ratio expressed as a percentage is also roughly the same as under normal conditions [illegible] 10. Only one [illegible] repetitions [illegible] refer to the complex.

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[1] After the breaking off of her romance her brother was the only person in whom the subject confided.

[illegible] It is striking [illegible] *human being* appears as a [illegible] eight times in three hundred associations [illegible] and [illegible]. There are seven reactions that [illegible] the [illegible] complex. *Human being* sometimes [illegible] a [illegible] person, sometimes [illegible].

[illegible] Similarly [illegible] *the person* [illegible] as a general [illegible] with [illegible] reference to the complex, e.g.

propriety	the person
bad	the person

[illegible] The subject is thinking of a [illegible] person [illegible] [illegible] plays an important part [illegible] complex. She is [illegible] [illegible] reaction [illegible] he had [illegible] serious subject, e.g.

indolent	the human being
virtue	of human beings

In this example there was even a perseveration of the same idea from which can be gathered [illegible] strong is the emotional charge of this idea.

[illegible] We can find the [illegible] used in the [illegible] a [illegible] complex [illegible] for example [illegible] in the reactions [illegible] normal conditions seventeen [illegible] reactions [illegible] the complex. The [illegible] less [illegible]

[illegible] We find the phenomenon again in [illegible] instance the complex reactions here are some relevant examples:

decent	the person (see above)
to be careful	the person
bad	the person

to pray	the parents (once referring to herself; she prayed a great deal when most unhappy)
[illegible]	of me (referring to herself; see explanation above)
[illegible]	of expiation (she feels guilty towards her dead father; there is a perseveration of the external form of the reaction here)
money	of punishment (in the same way this reaction would be quite nonsensical grammatically and can only be explained by the assumption that we are presumably dealing with the after-effect of the previous reaction form. This reaction is separated by several from the one before)
animal	the human being (a quite definite one)
meadow	the orchard (for explanations of these
to bring	apples { associations see above)
mild	the father
clever	the snake (quite definite people)
{ walking	the schoolboy } (in these associations the subject
order	the industrious } was evidently thinking of one
	worker } friend of her youth)
angry	the human being (means her father)

and so on

280 In the distraction experiment the subject did not understand several stimulus-words, namely *hatred, love, repentance, all, pleasant, penny, glass, hammer, revenge, rats, to hold.*

281 It soon transpired on analysis that the subject could not or would not understand the first series of quoted stimulus-words owing to the half-conscious, half-unconscious effect of her complex. According to her, all these stimulus-words touched most intimately upon the complex that she was trying to suppress.

282 The stimulus-words of the second series were really not understood because of the acoustic disturbance of the metronome. The subject thus found a further method here of hiding her complex in an apparently unobtrusive way; it is adapted to the situation, for as the second series of stimulus-words which did not touch upon the complex proves, it is easy not to understand stimulus-words, or to understand them wrongly, in

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[60] The braces to the left of the stimulus-words indicate that these immediately succeeded each other.

the conscious use of the meantime [illegible] the distraction [illegible] [illegible] for [illegible] under [illegible] and was introduced into the experiment).

239 This [illegible] waiting [illegible] and corresponds to a repression of the complex that was to a greater or lesser extent [illegible]. There is no [illegible] in principle [illegible] cases [illegible] hysterics [illegible] reacting [illegible] falsely reacting [illegible] voluntarily.

240 Under complex-reactions we have a large group of [illegible] masked complex-reactions. In our subject the masking so far as we could discern it was achieved by the following means:

1. By quotations, songs, book titles, quotations [illegible].
2. By the use of uncommon general concepts with a quite special meaning with reference to the sense of the complex.
3. By [illegible] the article. The reaction [illegible] sentences [illegible] appearance [illegible] appears like that produced by an elementary school class.
4. By misunderstanding the stimulus words [illegible] the complex.

241 Finally it must be reported that [illegible] normal [illegible] reaction times [illegible] the complex reactions [illegible] however no systematic measurements were taken [illegible] so that we cannot develop this point further in the case before us.

242 [illegible] In the first place the [illegible] figures for grouping [illegible] are striking [illegible] formal [illegible] and [illegible]. Some of them are [illegible] the mean values. On the other hand the figure for predicative and [illegible] reactions is relatively small and below the mean particularly in the case of the predicative reactions. The explanation of these figures is probably the extraordinarily [illegible] steady mode of reaction which is apparently little disturbed by complexes.

243 A few reactions with a rather long reaction time are to be noted. In our experience reactions with a time of more than 3 seconds are generally suspect of referring to emotionally charged constellations.

244 In this subject we find twelve associations with a reaction time of more than five seconds under normal conditions, in the distraction experiment only three.

Subject 25. Nurse, 22 years of age, South German, intelligent but not educated

[illegible]	NORMAL		DISTRACTION	
			External	
SPECIAL QUALITY	1st hundred	2nd hundred	60 M.M. metronome	100 M.M. metronome
Grouping	33	34	8	22
Predicative relationship	3	9	2	
Causal relationship	—	1	4	2
Co-existence	36	25	28	34
Identity	6	11	24	18
Linguistic-motor forms	15	16	20	18
Word-completion				—
Sound	—	1	2	·
Rhyme		3	2	2
Indirect	4		—	—
Meaningless	3	—		
Failures	-	-	—	—
Repetition of stimulus-word				
Egocentric reaction		1		-
Perseveration	—	—	—	—
Repetition of reaction	5	8		—
Same grammatical form	91	78	92	88
Same number of syllables	[illegible]	[illegible]	54	48
Alliteration	8		2	2
Consonance	7	18	22	14
Same ending	22	19	22	16
Internal associations	36	44	14	24
External associations	57	52	72	70
Sound reactions	—	4	4	2
Number of associations	100	100	50	50

105 The [illegible] following examples with [illegible] [illegible] presumably [illegible] be interpreted as the [illegible] of an erotic complex.

wedding	miss	6.8[1]
to kiss	to laugh	6.0
to love	glory	5.6
male nurse	wardrobe	8.0
cream	basket	6.4
ripe	fruit	6.
to bless	to receive	5.8

106 The subject usually reacted strongly [illegible] erotic [illegible] usages [illegible]. She admits herself that she was embarrassed in answering the [illegible] stimulus-words. She [illegible] wanted to say [illegible] first [illegible] as an answer to the stimulus-word *male nurse* [illegible] because she immediately thought of [illegible] relations. She searched [illegible] her surroundings and named the first [illegible] she saw in the room: *wardrobe*.

107 At the stimulus-word [illegible] an erotic [illegible] prevented her from reacting. Instead of giving a reaction according to sense the subject [illegible] distracted by externals; she happened to see the waste-paper basket and said [illegible]. This senseless reaction was given as a result of the complex. The reactions *ripe* [illegible] first [illegible] [illegible] are [illegible] of the same sexual embarrassment.

108 Disturbances [illegible] as [illegible] from our experience in psychopathology [illegible] must be interpreted in such cases as the [illegible] embarrassment or bewilderment which are caused when the [illegible] conjures up emotionally charged [illegible] that the subject [illegible] consciously tries to repress [illegible] completely distracted by externals and [illegible] reacts [illegible] her surroundings.

---

[1] [Reactions of between one and two seconds are considered normal. All reaction-time data in this paper are in seconds.]

[2] [illegible] of English [illegible] *Frucht* [illegible] phrase "the fruit of the womb."

[3] Cf. [illegible] Jung, "On Simulated Insanity."

We find this phenomenon very marked in certain subjects, for example:

297 Of the sixty-four reaction-words from the experiment under normal conditions that are repeated we [illegible] special [illegible] to die [illegible] five times, green three times, [illegible] beloved three [illegible] The others are divided among very varied ideas. One can more or less see from these the situation of the subject. It is characteristic that these [illegible] disappear under distraction.

298 In distracting [illegible] it was rather difficult [illegible] to draw the dividing line with certainty between [illegible] and co-existence.

299 [illegible] it must be said that the subject [illegible] belongs to a [illegible] type that is very little influenced by [illegible] relations. In distraction we find again [illegible] subject [illegible] this group.

300 The following associations [illegible] illustrate the general objective reaction-type of the subject:

soft	hard	to rinse	to wash	fidelity	obedience
youth	age	building	wall	to plunder	to catch
sorrow	worry	sleeve	dress	freedom	solitude
window	glass	park	garden	regret	fear
to see	light	glass	iron	stork	dove
sweet	sour	couch	chair	lake	car
wide	narrow	to paint	to varnish		
honey	bee	star	moon		

301 The unusually large number of reactions with the same grammatical form runs parallel to the many groupings and co-existences and confirms what has just been stated.

302 Distraction is very obvious. There is a decrease of internal and increase of external associations. We only find some reactions [illegible] the second hundred [illegible] under normal conditions and under [illegible] direct associations [illegible] first hundred direct [illegible] our assumed [illegible] reciprocity between indirect and sound associations would again be correct here.[34]

303 It must [illegible] be mentioned that the subject carried out the experiments with great conscientiousness and [illegible] a great effort under distraction [illegible] higher [illegible] towards devoting full attention to the experiment.

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[34] See below, Calculation of Averages, par. 405 (8).

504 [illegible] The subject has [illegible] make rhymes [illegible] second [illegible] distraction experiment.

507 [illegible] longer [illegible] during [illegible] reactions increase constantly.

508 Consonances are found most in the second hundred of the experiment [illegible] distraction experiment. [illegible] distraction [illegible] experiment [illegible] other subjects.

[illegible] We have [illegible] examples [illegible]

[illegible] glass [illegible]

The subject [illegible] glass [illegible] apparently insignificant expression.

511 to strike 6 o'clock [illegible]

The subject [illegible] ing to get up at 6 o'clock in the evening.

512 to paint *peindre* 6.8

This [illegible] French [illegible] young girl was admired by a painter. He was also very keen [illegible]

Subject 26. Nurse, 21 years of age. Swiss, secondary-school education

MAIN GROUPS	NORMAL		DISTRACTION	
			External	
SPECIAL QUALITY	1st 100	2nd 100	60 Metronome	100 Metronome
Grouping	20	16	22	8
Predicative relationship	5	11	16	18
Causal relationship	1	1	2	–
Co-existence	24	10	18	8
Identity	4	6	10	14
Linguistic-motor forms	43	47	24	36
Word-completion	1	1		2
Sound	–	–	2	2
Rhyme	1	2	2	8
Indirect		5	2	1
Meaningless	–	–	3	2
Failures	1	1		
Repetition of stimulus-word		–	–	–
Egocentric reaction	1		–	2
Perseveration	2	2	2	
Repetition of reaction	6	5	8	4
Same grammatical form	5	50	76	60
Same number of syllables	46	39	56	46
Alliteration	9	8	6	2
Consonance	15	9	18	16
Same ending	13	11	12	20
Internal associations	26	28	40	26
External associations	71	63	52	58
Sound reactions	2	3	4	12
Number of associations	100	100	50	50

ter. In the reaction word [illegible] there is, besides a meaning [illegible] association [illegible] [illegible] experience [illegible] French word [illegible] experiment [illegible] reaction

painter	*peintre*	13.0

[illegible] The [illegible] reaction-times in both places are worthy of note.

[illegible] The rapid succession [illegible]

wedding	tomorrow	2.2
come	tomorrow	1.4

This repetition is not a coincidence. The [illegible] her [illegible] the experiment [illegible] place. She was [illegible] [illegible] expecting a letter from her sweetheart.

314 Further, we find the reactions

rich	in love	[illegible]
poor	in virtue	2.[illegible]

The first [illegible] First Za[illegible] [illegible] [illegible] complex [illegible] the subject [illegible] [illegible] second [illegible] [illegible] The subject was thinking [illegible] [illegible] the other [illegible] than [illegible] the subject. The [illegible] has [illegible] associated [illegible] charged [illegible] between [illegible] other nurse [illegible] *poor in virtue* she means the other nurse.

315 The same [illegible] gave [illegible] the [illegible]

to despise	you think	2.2

The quotation is word for word as follows

Perhaps you believed
I should hate life
Flee to the deserts,
Because all dream buds
Had not bloomed?] (Goethe, *Prometheus*)

The subject [illegible] the first [illegible] she had [illegible] [illegible] One sees from this how [illegible] expressions and [illegible] this [illegible] associated [illegible] complexes [illegible] create [illegible] complexes which makes possible [illegible] variations on one single thought.

316 A further quotation

[illegible] does not last for ever [illegible]

again [illegible] complex. The reaction time [illegible] long. The subject was thinking of the [illegible] she heard. She was [illegible] post abroad, wishing he would not go.

[illegible] word [illegible] kiss [illegible] yes [illegible] something [illegible] the discussion [illegible] the [illegible] kissing was [illegible] the stimulus word [illegible] the subject reacted

time   according to   8.0

The next reaction but one was

to reign   according to   9.8

[illegible] [illegible] appears [illegible] immediately [illegible] and [illegible]

[illegible] touched upon the complex.

319 The reaction

to love in need of 4.0

[illegible] change [illegible] expressed [illegible] complexes are concerned.

320 A [illegible]

to choose advice 5.2

[illegible] one must be very careful [illegible] one might [illegible] good advice when having to make one's choice.

321 A quotation, the reaction

hope does not let one sink 1.8

[illegible] of winning her.

322 On the reaction

love (*Lieb*) empty (*leer*) 3.0

[illegible]

to love in need of 4.0

with a change of facial expression.

323 The reaction

lazy why 1.8

is again a [illegible]. The [illegible] word [illegible] based [illegible] as follows:

The girl came to the spider
And the spider said: Why so late?
I have been spinning threads for three hours
See how finely and delicately they are twisted

The [illegible] of these lines [illegible] [illegible] [illegible] [illegible] [illegible] complexes [illegible] [illegible] [illegible] poem by heart.

[illegible] [illegible] [illegible] a feeling-toned thought.

The [illegible] [illegible] [illegible] poem [illegible] [illegible] [illegible] [illegible] [illegible] find the expression of this in this reaction.

[illegible] [illegible] [illegible] action.

something [illegible] important [illegible]

[illegible] [illegible] [illegible] [illegible]

[illegible] details.

[illegible] are conditioned by it.

[illegible] subconscious.

[illegible]

[illegible] 533 About the reactions

[illegible] wheel tram bicycle

the subject [illegible] explained [illegible] her sweetheart [illegible] lived a [illegible] lately [illegible] [illegible] stimulus-words. The reactions

fire	Zurich	station	Zurich

reminded her [illegible] [illegible] [illegible] Zurich [illegible] against [illegible]. The reactions

loved	sad
mild	sad

are connected with the [illegible] her family. In the reactions

sin	world	0.8
remorse	dead	2

a re[illegible] [illegible] was [illegible] [illegible] some [illegible] strange [illegible] there were [illegible] consequences [illegible] accident had happened [illegible] which the subject was [illegible] very unpleasant impression and a great feeling of guilt. Hence also the perseveration in the above reactions.

[illegible] Subject [illegible]. The [illegible] of the experiment [illegible] the greatest [illegible] this group. [illegible] distraction [illegible] the subject gave [illegible] Reactions [illegible] same group are [illegible] very small. [illegible] predicates are [illegible] absent, which [illegible] stimulus-words [illegible] figures for the same grammatical [illegible] reactions are strikingly high as [illegible] case 2 [illegible] this group. [illegible] subject [illegible] quite objective [illegible] considerations. Many associations [illegible] without [illegible] a retrospective explanation [illegible]. We do not possess a more detailed analysis.

[illegible] Subject 23. The predicates are relatively few in the experiment [illegible] example [illegible] 20.4 per cent, the average [illegible] educated women. The [illegible] below average [illegible] the experiments [illegible] *elementary school education*

	SUBJECT 27				SUBJECT 28			
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	
			External				External	
SPECIAL QUALITY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Grouping	48	46	54	26	21	32	14	16
Predicative relationship	4	2	–	6	9	8	4	6
Causal relationship	–	3	–		1	1	–	
Co-existence	30	15	8	32	30	15	4	12
Identity	4	13	18	18	6	8	12	8
Linguistic-motor forms	14	18	12	18	31	32	50	48
Word-completion	–		–		–	–		
Sound		–		–		3	2	6
Rhyme	–		–	–		–	2	
Indirect	1	2	–	–		–	–	2
Meaningless	–	1	–		–	1	–	–
Failures		–		–	1	1	2	
Repetition of stimulus-word	–		–		–			–
Egocentric reaction	–	–	–	–	–		–	
Perseveration		1		–		–		2
Repetition of reaction	8	5	6	4	10	9	0	3
Same grammatical form	85	86	96	90	76	69	68	70
Same number of syllables	60	53	58	56	54	49	48	42
[illegible]	[illegible]	[illegible]	8		[illegible]	[illegible]	[illegible]	[illegible]
Consonance	15	7	10	8	14	21	30	36
Same ending	[illegible]		2		[illegible]	1	[illegible]	
Internal associations	51	61	54	32	31	41	18	32
External associations	48	41		[illegible]	68	55	[illegible]	60
Sound reactions		–		–		2	4	8
Number of associations	100	100	50	50	100	100	50	50

In the normal [illegible] under distraction the linguistic-motor reactions, on the other hand, are above average [illegible] the latter is 24 per cent under normal conditions and 28 per cent under external distraction. On the [illegible] are [illegible] by a [illegible] relatively [illegible] and many external associations.

[illegible] the general reaction-type appears [illegible] the distraction experiment was successful [illegible] many predicate [illegible] external associations are [illegible] more numerous [illegible] second part of the [illegible] experiment than [illegible] the first [illegible] under normal conditions [illegible] internal associations have definitely decreased while the sound reactions have increased.

In the second [illegible] we have an [illegible] internal [illegible]. At the same time we find [illegible] probably as [illegible] sound reactions in the second hundred. Here are more [illegible] to awaken [illegible] charged [illegible] here. [illegible] internal [illegible] associations in the second [illegible] the [illegible] experiment [illegible] the start of the experiment [illegible]. We have here [illegible] exclusively complex-constellations.

The [illegible] complex is [illegible] unhappy ending. The subject has [illegible] deserted by her lover after a long relationship.

The long [illegible] times [illegible] mostly [illegible] more than [illegible] seconds [illegible] complex-constellations. Examples:

male nurse	hospital orderly	11.4	(the lover was a male nurse)
heart	stomach	6.4	
to stroke	to love	[illegible]	
to part	to go	[illegible]	
dear	angry	8.8	
freedom	imprisoned	6.0	
to despise	respected	18.[illegible]	
hand	to tear up	9	
false	falseness	9	

[illegible] are therefore all the more suspect.

[illegible] other difficult, unfamiliar stimulus-words.)

[illegible] action at all.

[illegible] things from the everyday life of a nurse.

[illegible] responsible.

[illegible] From the type [illegible] clear

Subjects 29 and 30. Nurses, 18 and 27 years of age. Swiss, elementary school education

[illegible]	SUBJECT 29				SUBJECT 30			
[illegible]	[illegible]	[illegible]	External		[illegible]	[illegible]	External	
Grouping	12	[illegible]	4	[illegible]	[illegible]	[illegible]		8
Predicative relationship	[illegible]	[illegible]	[illegible]	18		[illegible]	[illegible]	[illegible]
Causal relationship	1	2	—	—	2	1		
Co-existence	5	4	16	12	26	12	10	6
Identity	2	9	6	10	4	4	6	2
Linguistic-motor forms	16	31	18	8	18	18	36	66
[illegible]								
[illegible]			2					[illegible]
[illegible]								
Indirect	—	—	4	—				
Meaningless		[illegible]		[illegible]	[illegible]	—	4	—
Failures	1	7	—		1	8		
Repetition of stimulus-word				[illegible]	[illegible]	—	4	—
Egocentric reaction	3	2	2	2	—	—	—	
Perseveration	5		[illegible]		[illegible]		8	[illegible]
Repetition of reaction	3	11	14	6	14	9	18	4
Same grammatical form	50	49	48	42	51	55	38	60
Same number of syllables	37	24	48	52	53	43	20	14
Alliteration	6	5	6	8	14	9	28	30
Consonance	9	5	12	6	15	10	34	30
Same ending	[illegible]	2	0	4	6	11	20	28
Internal associations	50	65	64	60	53	65	40	21
External associations	49	28	30	40	46	34	53	74
Sound reactions	—	—	2	—	—	—	—	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible] stimulus-words, e.g.,

to kiss	morning kiss	8.4
to remember	letter	14.0
bad	failure	
rascal	without means	[illegible]

446 [illegible] sentence, e.g.,

[illegible]	[illegible]
repentance	man repents
love	people love
strong	man is strong
hatred	people hate, etc.

[illegible]

448 [illegible] with a number of subjects [illegible]

Subject 32. Man, about 27 years of age, Swiss, elementary school education, fairly intelligent.

[illegible]	[illegible]		[illegible]	
			External	
SPECIAL QUALITY	1st hund.	2nd hund.	1st half	2nd half
Grouping	10	13	12	20
Predicative relationship	48	32	35	32
Causal relationship	–	–	–	2
Co-existence	11	4	14	4
Identity	2	5	2	3
Linguistic-motor forms	23	42	25	29
Word-completion	–	2	2	2
Sound		–	–	2
Rhyme	–	–	2	–
Indirect	–	–	3	–
Meaningless				–
Failures	6	1	6	4
Repetition of stimulus-word				
Egocentric reaction			2	
Perseveration				
Repetition of reaction	15	13	8	2
Same grammatical form	38	58	34	40
Same number of syllables	42	46	44	54
Alliteration	3	11	6	8
Consonance	11	15	10	8
Same ending	6	8	4	6
Internal associations	58	45	47	54
External associations	36	51	41	36
Sound reactions		2	4	4
Number of associations	100	100	50	50

[illegible] ing reactions are repeated:

practical	twice	good	3 times
[illegible]	[illegible]	[illegible]	[illegible] times
room	twice	wonderful	3 times
[illegible]	twice	man (husband)	3 times
God	twice	child	5 times

[illegible]

to growl	dog
knot	the knots (lumps) on the paws of the dog

[illegible] strong personal participation.

[illegible] similar cases.

SUMMARY

[illegible] external distraction.

Most [illegible] had

[illegible]

[illegible]

IV. UNEDUCATED MEN

358 [illegible] analyses are lacking.

[illegible] 2.6 seconds.

360 [illegible] subject.

361 [illegible] is engaged [illegible]

[illegible] by this thought-complex.

[illegible] We [illegible] make [illegible] associations.

[illegible] We [illegible] in [illegible]

papa	sold[illegible]
[illegible]	sound
row	[illegible]

[illegible] great [illegible] his fiancée:

tear	to trust	1.6
hope	at last	1.6
wreath	ring	[illegible]
fidelity	to let go	[illegible]
everywhere	alone	
family	alone	[illegible]
to part	to come together	[illegible]

[illegible] subject.

[illegible] experiment [illegible] the use of associations [illegible] normal [illegible] and complex-associations are manifest.

[illegible] never [illegible] case [illegible] experience [illegible] Personal [illegible]

[illegible]

elementary-school education (34, 54), secondary-school education, intelligent, rather neurasthenic (35, 37), elementary-school education (36, 30 (37)) [illegible] secondary-school education

Associations	SUBJECT 32				SUBJECT 33				[illegible]			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Grouping	32	12	16	6	32	37	24	20	5	22	10	12
Predicate	12	28	18	10	1	4	2	8	7	6	2	8
Internal associations	4[illegible]	41	44	26	34	[illegible]	26	28	24	38	22	42
External associations	50	51	62	60	64	53	64	66	75	58	36	48
Sound reactions	—		—	—	2	1	6					2
Remaining group	1	6	2	14	1	4	4	6	2	2	18	8
Number of associations	100	100	50	50	100	100	50	50	100	100	50	50

ASSOCIATIONS	SUBJECT 35				SUBJECT 36				SUBJECT 37			
Grouping	25	15	24	10	32	6	8	2	46	27	30	24
Predicate	3	28	20	16	3	6		2	9	11	6	10
Internal associations	49	46	44	26	35	21	18	14	56	41	38	52
External associations	48	48	46	68	63	78	68	80	40	56	56	58
Sound reactions	1	1	4		1	1	8	4	1	1	—	2
Remaining group	2	5	6	6	1	—	6	2	3	3	6	8
Number of associations	100	100	50	50	100	100	50	50	100	100	50	50

[illegible] We [illegible] preceding [illegible] cases from [illegible] have been taken [illegible] see [illegible] as [illegible] these cases [illegible]

[illegible] The [illegible] associations [illegible] group. The predicates [illegible] are [illegible] associations decrease [illegible] in the second [illegible] the [illegible] experiment [illegible] in the second [illegible] the first [illegible] second part [illegible] had the decrease [illegible] increase [illegible] external associations [illegible] marked. The [illegible] same [illegible] as the next [illegible] 1, and 2 [illegible] the group [illegible] the first hundred [illegible] hundred [illegible] experiment. [illegible] and the [illegible] back [illegible]

608 In the second part of the distraction experiment [illegible] repetition [illegible] embarrassment and as a distraction phenomenon.

[illegible]	door	castle (or lock)
[illegible]	hall	castle hall
[illegible]	bridge	castle bridge (drawbridge)
[illegible]	shield	castle shield (or lockplate)
8	cellar	cellar-door
[illegible]	corridor	door

609 [illegible] external associations [illegible] essential [illegible]

[illegible] The numbers refer to the order of the stimulus words on the form. They are given to show at what intervals these repetitions occur.

[illegible]

[illegible] type

[illegible] more actual co-ordinations.

Stimulus word	Subject 25	Subject 27	Subject [illegible]	Subject [illegible]
	(Uneducated women)		(Uneducated men)	
Sunday	Tuesday	Monday	Monday	holiday
schoolboy	girl	teacher	teacher	boy
head	foot	arm	neck	part of human being
ink	pen	pen	pencil	writing material
bread	meat	cheese	flour	food
lamp	oil	candle	light	object in a room
tree	chair (?)	bush	bush	plant
wood	coal	coal	coal	fuel
[illegible]	pen	pen	blackboard	school implement
[illegible]	plum	apple	vegetable	fruits
helmet	glove	sword	cuirassier	head-covering

[illegible] of external associations [illegible] already found [illegible]

Subject 38, 1[illegible] years of age, technical-school boy, fairly intelligent, nervous

[illegible]	[illegible]	[illegible]	[illegible]	
			Exte[illegible]	
Grouping	9	22	36	2
Predicative relationship	35	26	2	
Causal relationship	—	1	—	—
Co-existence	26	6	32	12
Identity	3	2	14	8
Linguistic-motor forms	22	34	12	44
Word completion	·	—	—	—
Sound				
Rhyme	—	—	—	—
Indirect	—	—	—	—
Meaningless	—			
Failures	1	5	4	4
Repetition of stimulus-word				6
Egocentric reaction	2			
Perseveration	—	—	—	2
Repetition of reaction	12	5		—
Same grammatical form	44	48	82	64
Same number of syllables	32	30	48	40
Alliteration	12	14	12	6
[illegible]	[illegible]	8	26	22
[illegible]	2	13	0	4
Internal associations	48	49	38	26
External associations	51	46	58	64
Sound reactions	—	—	—	·
Number of associations	100	100	50	50

[illegible] experiment

[illegible] times are striking, e.g.

exercise-book	squared	7
book	interesting	10.1
obstinate	the enemy	17.2
to stroke	caresser (French)	6.4
evil	devil	10.4
wicked	devil	28.0
to come	the yellow peril	8.4
to kiss	Oberon	6.8
to love	mother	13.0
dear	mother	9.0
strange	a poem	11.0
to disgust	ugly	6.8

[illegible]

SUMMARY

[illegible]

[illegible] Our [illegible] a constant [illegible]

[illegible] types [illegible] Whether [illegible] external [illegible] distraction [illegible] group [illegible] external distraction was [illegible]

[illegible] Sound associations [illegible] same extent as with the educated subjects

[illegible] many [illegible] predicates [illegible] grammatical [illegible] are distinguished [illegible] the same [illegible] We [illegible] group [illegible] complexes [illegible] group [illegible] complex-constellations

[illegible] subjects [illegible] associations [illegible] complexes [illegible] in all cases

[illegible] generally [illegible] feelings [illegible] difference [illegible] educated subjects [illegible] among the [illegible] educated [illegible] more [illegible] regard [illegible]

[illegible]

B. CALCULATIONS OF AVERAGES

I. *Experiment under Normal Conditions*

[illegible] therefore produced again.

[illegible]

[illegible] It becomes [illegible] associated with direction.

[illegible] associated [illegible] those not associated with direction.

10 [illegible]

[illegible] experiment [illegible] the meaning of the stimulus [illegible]

[illegible]

[illegible] that they are not even [illegible] In [illegible] the process [illegible] suppressed [illegible]

[illegible] be brought up only with a certain effort

[illegible]

[illegible] monograph

[illegible]

Disturbance of attention [illegible] [illegible] [illegible] and [illegible] [illegible] [illegible] in [illegible] be interpreted [illegible] phasia, corresponds to the [illegible] phenomenon [illegible] reactions [illegible] under the influence [illegible] excitation [illegible] and make [illegible]. The psychological basis of [illegible] [illegible] reactions renders a [illegible] [illegible] [illegible] [illegible] of the [illegible] [illegible]. According to [illegible] principles [illegible] reactions [illegible] a result which [illegible] experiment appears as sound reactions, etc. It is possible that [illegible] experiments [illegible] is [illegible] to the [illegible] system [illegible] the mechanism of reaction [illegible] its sole cause.

397 From our [illegible] experiments [illegible] sound reactions appear wherever there is a disturbance of attention [illegible] suspect [illegible] disturbance of attention [illegible] where sound reactions occur.

398 [illegible] appears [illegible] greatly [illegible] is more [illegible] an essential condition for the understanding of the reactions generally.

399 Because of the relatively great variations in the individual figures in general [illegible] figures is [illegible] we have [illegible] of certain groups [illegible] percentages [illegible] comparison easier. We realize that a [illegible] of averages from figures [illegible] is a somewhat hazardous undertaking [illegible] the comparative treatment of the individual groups [illegible] somewhat [illegible] we are [illegible] less [illegible] at least the main figures [illegible] experimental [illegible] present a true picture of the mode of reaction. The [illegible] special groups [illegible] certain sources of error that are caused by the selection of [illegible] stimulus-words. It is certainly clear that [illegible] rather [illegible] words. Nevertheless our relative figures [illegible] all subjects were given the same set of stimulus-words.

400 We have classified [illegible]

[illegible] associations.

[illegible] what above that of the female subjects.

[illegible] connections are very high.

[illegible]

[illegible] smaller number of predicates.

[illegible]

[illegible]

(Uneducated)

SPECIAL QUALITY	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	Educated	Hungarian	[illegible]
Grouping	24.8	26.2	[illegible]	[illegible]
Predicative relationship	18.8 } 44.0	22.0 } 49.8	[illegible]	[illegible]
Causal relationship	[illegible]			
Co-existence	27.2	9.6		
Identity	5.7 } 52.8	6.8 } 46.1	[illegible]	[illegible]
Linguistic-motor forms	20.9	25.7	[illegible]	
Word-completion	0.2	[illegible]		
Sound	} 0.9	0.9 } 1.4		[illegible]
Rhyme	0.1	0.6		
Indirect	0.6	0.8		
Meaningless	0.3	0.2		
Failures	1.2 } 2.1	.6 } 2.6		[illegible]
Repetition of stimulus-word	–			
Egocentric reactions	0.8	0.8	2.0	1.5
[illegible]	[illegible]	[illegible]		[illegible]
Repetition of reactions	0.2	8.8	14	16.5
Same grammatical form	65.2	54.7	60.1	58.4
Same number of syllables	49.9	42.2	41.7	37.0
Alliteration	10.2	8.7	9.0	9.0
[illegible]	[illegible]	[illegible]		
Same ending	1.7	1.0	16.4	16.5
Number of associations	800	800	700	700
Number of subjects	8		7	

[illegible] The [illegible] nearly

B. The First and Second Hundred of Normal Associations. Educated

[illegible]	1st Hundred	2nd Hundred	1st Hundred	2nd Hundred
Co-ordination	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Causal relationship	[illegible]	[illegible]	[illegible]	[illegible]
Co-existence	[illegible]	[illegible]	[illegible]	[illegible]
Identity	[illegible]	[illegible]	[illegible]	[illegible]
Linguistic-motor forms	[illegible]	[illegible]	[illegible]	[illegible]
Word-completion	[illegible]	[illegible]	[illegible]	[illegible]
Sound	[illegible]	[illegible]	[illegible]	[illegible]
Rhyme	[illegible]	[illegible]	[illegible]	[illegible]
Indirect	[illegible]	[illegible]	[illegible]	[illegible]
Meaningless	[illegible]	[illegible]	[illegible]	[illegible]
Failures	[illegible]	[illegible]	[illegible]	[illegible]
Repetition of stimulus-word	[illegible]	[illegible]	[illegible]	[illegible]
Egocentric reactions	[illegible]	[illegible]	[illegible]	[illegible]
Perseveration	[illegible]	[illegible]	[illegible]	[illegible]
Repetition of reaction	[illegible]	[illegible]	[illegible]	[illegible]
Same grammatical form	53.9	54.0	52.[illegible]	4[illegible]
Same number of syllables	43.9	39.2	37.[illegible]	32.0
Alliteration	9.0	7.8	9.2	8.8
Consonance	[illegible]	15.2	15.1	[illegible]
Same ending	9.8	[illegible]	8.2	8.8
Number of associations	[illegible]	100	800	800
Number of subjects	11		8	

all highly educated persons; the women [illegible] exceptions, are of a high level of education.

n. [illegible]

The high figures for indirect associations in the men are par[illegible] striking, being [illegible] those of the women. The average figure [illegible] is somewhat greater than in the women. The inverse relationship [illegible] associa[illegible] and sound reactions, which was previously suspected, is indicated here too.

	WOMEN		MEN	
	1st hundred	2nd hundred	1st hundred	2nd hundred
Sound reactions	2.9	2.4	5.2	6
Indirect association	0.9	1.0	2.8	3.2

The small [illegible] is [illegible] to the [illegible] distraction averages.

Here also the egocentric reactions of the men exceed those of the women. The number of perseverations [illegible] egocentric [illegible] as in the uneducated subjects—a [illegible] the larger [illegible] perseverations. N.B. only [illegible]

[illegible] between educated and uneducated subjects [illegible] figures of both groups side by side (Table C).

The educated subjects show a clearly defined internal reaction type [illegible] the uneducated [illegible]. The difference is best expressed by stating [illegible] the uneducated [illegible] educated subjects show a distraction phenomenon.

It is not surprising that [illegible] the educated subjects are [illegible] figures [illegible] the educated [illegible] them [illegible] experiment. The [illegible] figures [illegible] group are proportionately [illegible] as we have repeatedly seen in the individual accounts.

What is the [illegible] Once [illegible] are [illegible] the [illegible] sense. Our [illegible] experiment [illegible] their [illegible] the [illegible] explanation [illegible] reaction type can be deduced.

C. *Averages for Educated and Uneducated Subjects*

[illegible]	Educated		Uneducated	
Grouping	15.0	35.8	24.2	43.4
Predicative relationship	19.3		18.2	
[illegible]			[illegible]	
Co-existence	3.3	55.3	18.8	58.4
Identity	6.2		7.5	
Linguistic-motor forms	45.8		[illegible]	
Word-completion	1.3	3.4	0.1	0.5
Sound	1.5		0.0	
Rhyme	0.6		0.4	
Indirect	1.7	4.0	0.7	2.2
Meaningless	0.5		0.1	
Failures	1.7		1.4	
Repetition of stimulus-word	0.1			
Egocentric reaction	8.4		2.1	
[illegible]	[illegible]		4.8	
Repetition of reaction	7.3		10.9	
Same grammatical form	[illegible]		59.2	
Same number of syllables	38.2		47.5	
Alliteration	8.7		9.5	
Consonance	10.2		12.3	
Same ending	9.5		13.8	
Number of associations	3800		3000	
Number of subjects	19		5	

425 As a result of these assumptions the following points may be considered:

1. The agreement in grammatical form and number of syllables between stimulus-word and reaction is clearly greater in the uneducated subjects. This fact seems to indicate that the uneducated subject is more closely bound to the stimulus-word and is more influenced by it than the educated subject.

2. The number of meaningless reactions is considerably smaller in the educated subject. He has better control over himself, for he pays more attention to his reaction.

[illegible] The uneducated subject [illegible] the educated [illegible] [illegible] he makes a greater effort [illegible] [illegible] the educated subject does.

[illegible] The uneducated subject surpasses [illegible] [illegible] spatial [illegible] [illegible] subject makes an effort to [illegible] [illegible] the [illegible] and he [illegible] co-existence [illegible] The educated [illegible] experiences [illegible]

[illegible] educated subject has [illegible] had as many [illegible] [illegible] exposes [illegible] disguised [illegible] wishes and [illegible] less. He makes an effort [illegible] world.

One [illegible] greater [illegible] laziness [illegible] revealed. The [illegible]

For these reasons we regard [illegible] as [illegible] differences between [illegible] educated [illegible] as far as [illegible] expressed [illegible] figures [illegible] there [illegible] has the significance [illegible] phenomena.

If we may [illegible] the degree [illegible] the figures [illegible] group [illegible] the highest degree of attention [illegible] the lowest [illegible] examine the groups divided according to sex with respect to these points of view.

What [illegible] difference [illegible] between educated [illegible] uneducated subjects [illegible] be considered.

The uneducated subject is amused [illegible] experiment [illegible] strange [illegible] educated subject [illegible] more capable of understanding the significance of the experiment and [illegible]

[illegible]

[illegible] of any means a qualitative difference.

[illegible] why more effort is made in reacting

[illegible] to which he then replies [illegible]

[illegible] value of a single word only in a fictitious [illegible] were to the educated the [illegible] "word" without specific [illegible] value

[illegible]

[illegible] language that they have never read in print or writing. [illegible] are spoken [illegible] dialect. The educated subjects sometimes have difficulty [illegible] sentence-connection.

to assimilate the stimulus-word in the form of a question, because it is [illegible] that [illegible] stimulus-words tend to have the connotation of questions.

This attitude to the stimulus-word becomes more evident in certain pathological cases, where the association experiment [illegible] a [illegible] 200 sentence [illegible] conversation on a feeling-toned theme. From these observations one can readily deduce that the uneducated subject pays greater attention [illegible] the meaning of the stimulus-word [illegible] but more than it does the educated subject.

The difference between educated and uneducated subjects is in a certain contrast of their interpretations of the stimulus-word. This principle of differentiation allows us to divide two groups, even if vaguely delineated. This distinction, however, is such a general one that it does not take [illegible] essential differences in the reaction-types. We have therefore made an effort to find other, more tenable principles of classification. We asked ourselves whether there are other general factors that influence the reaction, apart from the attention phenomenon.

412 One principal factor is the individual character. The difference in interpretation discussed above is an intellectual or associative disposition which may be the same in individuals of widely varying character. As regards character, the state of affairs is different. From our experiments two easily recognizable types emerge:

1. A type in whose reactions subjective, often feeling-toned experiences are used.

2. A type whose reactions show an objective, impersonal tone.

413 The former type expresses reminiscences of personal [illegible] with a strong feeling-tone. The latter type couples words [illegible] concepts [illegible] the personal plays a [illegible] subordinate role in the reaction. This type can be called objective.

II. The first type can be divided into three groups:

a. The stimulus-word image [illegible] from the stimulus-word [illegible] principally through its feeling-tone. Usually the feeling-tone of the stimulus-word image excites a whole complex of memories belonging to it. The reaction then is inherent in the com-

[illegible] We [illegible] call this type the simple constellation type.[13]

[illegible] the sensory [illegible] We call this type the predicate type.

[illegible] and [illegible] attitude.

[illegible] originate.

[illegible] presup[illegible]

[illegible]

[illegible] as we have become convinced from numerous [illegible] is [illegible] a conscious not-wanting but quite often an [illegible] in its place and exteriorized.

[illegible] with great regularity.

119 The suppression is betrayed:

[illegible] quently occur in the form of sentences.

2. [illegible]

---

unconscious inhibition, which in most cases also causes a lengthening of the reaction-time.

[illegible]

[illegible] a superficial one.

[illegible] absence of all associations, cannot take place.

[illegible] stimulated by the preceding association.

[illegible] toned conscious idea.

[illegible] complex.

[illegible]

[illegible] intrapsychic distraction.

[illegible] word familiar with all the stimulus words on our list.

[illegible] subjects the repetitions also have a certain significance as the direct expression of the complex. (We have pointed out several times [illegible] the complex, or that indirectly replace it, are frequently repeated.

[illegible] these [illegible] psychological phenomena because the affective processes the traces of which [illegible] with the greatest possible care in normal reactions [illegible] the pathological reactions, as we shall show in [illegible] later. We might perhaps [illegible] as a [illegible] normal [illegible] revealed [illegible] reaction. [illegible] great [illegible] the realization [illegible] reactions are [illegible] extraordinarily sensitive [illegible] affective processes [illegible] particular [illegible] response [illegible] the subject in general.

428 T[illegible] strate [illegible] we present associations [illegible] the [illegible]

I OBJECTIVE TYPE

[illegible] [illegible] is essentially objective. At the same time the interpretation of the stimulus [illegible] each other [illegible] words [illegible] partly in accordance with [illegible] partly [illegible] verbal connections (subject 15, educated men).

Christmas	Easter	ring	finger
[illegible]	[illegible]	[illegible]	[illegible]
winter	spring	window	frame
[illegible]	[illegible]	[illegible]	[illegible]
pupil	teacher	sweet	sour
father	mother	to ride	to travel
table	leg	friendly	painful
[illegible]	[illegible]	[illegible]	[illegible]
ink	pen	crown	realm
needle	holder	rough	man (ruffian)
bread	to earn	prison	detention
lamp	shade	to part	to avoid
[illegible]	[illegible]	[illegible]	[illegible]
mountain	green	ill	weak
dream (*Traum*)	froth (*Schaum*)	air	song
		potato	to salt
exercise-book	knife	to be lazy	armchair
[illegible]	[illegible]	[illegible]	to drink
book	to read	sacrifice	to bring
[illegible]	[illegible]	[illegible]	[illegible]
to sing	to write	grandmother	father

bad	naughty	dark	light
to clap	hands	heart (*Herz*)	pain (*Schmerz*)
[illegible]	[illegible]	[illegible]	[illegible]
to threaten	fist	white	black
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
suffering	joy	moon	light
eye	tooth	to beat	to throw
[illegible]	[illegible]	[illegible]	[illegible]
	At the Sign	star	shooting
inn	of the	to stroke	cat
	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
fist (*Faust*)	Goethe	loyalty	German
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	blond	wonder	of wonders
everywhere	I am at home	blood	vengeance
to calculate	to measure	wreath	athlete
to kiss	mouth	to choose	choice
[illegible]	[illegible]	[illegible]	[illegible]
hand	of love	to have to	no man must
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
journey	to Canossa		one perish
to quarrel	fight	small (*klein*)	my (*mein*)
[illegible]	[illegible]	[illegible]	[illegible]
flower	calyx	word (*Wort*)	pain (*Schmerz*)
cherry	stone	strange	[illegible]
instruction	male nurse	slate-pencil	[illegible]
piano	to play	to growl	[illegible]
oven	town[47]	knob	[illegible]
to walk	to go	fruit	[illegible]
to cook	to eat	false	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
to dance	music	hay	straw
cat	mouse	cleanly	painfully
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
town of Pest (Hungary). *Ofen* really means "oven."

[47] [Cf. supra, par. [illegible], n. 15.]

to surmise	W. (name of acquaintance who formulated a certain hypothesis)	trap (*Falle*)	rope (*Strick*) (*Fallstrick* 'snare')
		to be reversed	gruesome
		result	to suck
head	blood and wounds	deck	to wring
		sleep	mount[illegible]
[illegible]	[illegible]	swing	to swing
hedge	rose	to fetch	to bring
insolent	lazy	skull	formation
vinegar	sour	to use	to be able to
hot	cold	stamp	*timbre*

[illegible]
only subjective constellation is *to surmise*. Th[illegible]

Re[illegible]
[illegible]
cated women.

table	chair	to sing	to rejoice
head	arm	soup	[illegible]
ink	pen	tooth	[illegible]
needle	thread	window	[illegible]
bread	cheese	frog	[illegible]
lamp	candle	flower	[illegible]
tree	bush	cherry	[illegible]
mountain	valley	mushroom	[illegible]
hair	thread	piano	[illegible]
wood	coal	fern	rose-bush
[illegible]	[illegible]	[illegible]	[illegible]
dream	sleep	water	wine
exercise-book	book	to dance	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
book	newspaper	heart	[illegible]
school	church	bird	[illegible]

[illegible]	[illegible]
game	to sing
[illegible]	[illegible]
moon	stars
to beat	to bite
obstinate	gentle
to light	to extinguish
[illegible]	[illegible]
to stroke	to beat
[illegible]	[illegible]
[illegible]	[illegible]
to ride	to travel
friendly	cross
file	hammer
crown	helmet
[illegible]	[illegible]
thanks	you're welcome
[illegible]	[illegible]
to stink	to taste
[illegible]	[illegible]
to separate	to join
	[illegible]
potato	bread
trap	to catch
to disgust	to taste
[illegible]	[illegible]
[illegible]	[illegible]
victim	saviour
wedding	funeral
[illegible]	[illegible]
soldier	civilian
to clap	to sing
to threaten	to beat
behaviour	polite
to fall	level
to suffer	nearby
youth	age
[illegible]	[illegible]
[illegible]	[illegible]
to pay attention	to hear
hat	hand

[illegible]	[illegible]
	(family is
	[illegible]
murderer	robber
everywhere	here
to kiss	to flatter
bad	good
[illegible]	[illegible]
	is implied,
[illegible]	[illegible]
[illegible]	[illegible]
walk	[illegible]
to quarrel	[illegible]
sofa	[illegible]
to love	to hate
[illegible]	[illegible]
tears	to laugh
[illegible]	[illegible]
wonder	nature
[illegible]	[illegible]
wreath	flowers
[illegible]	[illegible]
right	wrong
force	voluntary
revenge	peace
[illegible]	[illegible]
[illegible]	[illegible]
freedom	imprisoned
world	not of
[illegible]	[illegible]
to growl	to bite
knot	rope
false	true
helmet	sword
plate	tray
hay	grass
pure	clean
[illegible]	[illegible]
[illegible]	[illegible]
at home	away
vinegar	wine
[illegible]	[illegible]
swing	to throw

[illegible] [illegible] se from [illegible] [illegible] are entirely absent from the reactions. Her manner is [illegible] [illegible] contrast [illegible] [illegible] be noted [illegible] the meaning [illegible] [illegible] is expressed in many contrasting ways.

2. EGOCENTRIC ATTITUDE

(a) Simple-constellation type

[illegible] Reactions [illegible] subject [illegible] whose reactions [illegible] [illegible] expressed [illegible] [illegible] egocentric [illegible] [illegible] subject [illegible]

father	anxious (the subject is the father of a new-[illegible])	to sing	Miss B. (name of a singer who was at the [illegible] time)
head	round		
[illegible]	[illegible]	[illegible]	hospital gardens [illegible] in the garden of the hospital)
bread	bread-factory		
lamp	smells		
tree	[illegible] ance connected with a certain experience)	[illegible] (*Zahn*)	[illegible] Zahn, lives in Göschenen
mountain (*Berg*)	Uetliberg	window [illegible]	opening [illegible]
hair	falling out	flower	rose
salt	R[illegible] (where there are salt works)	cherry	[illegible]ice
		hospital	R. (a certain hospital for feeble-minded children)
wood	ebony		
dream	R. (name of a colleague who was occupied with dream-analyses at this time)	male nurse	B. (name of a particular nurse)
		fern	tape-worm
paper	fraud (paper in the sense of documents in evidence about a case of fraud)	oven	Pest[49]
		to be obliged to	Lessing (a famous quotation from Lessing is implied)
book	letter (*Buchstabe*, letter of the alphabet)	revenge	thirst
		hope	pregnancy (This constellation is explained by earlier comments)
pencil	Koh-i-noor (the subject uses this brand)		
[illegible]	S[illegible] where the subject went to school)	[illegible] (*Klein*	[illegible] name of a nurse)
		to pray	church

---

[49] [See n. 4[illegible]

liberty	statue (the subject had been in America and particularly admired New York)
unjust	to imprison (consideration from duty (later course with querulous patients)
to be lazy	wonderful
coffee	Mocha
sacrifice	L. (name of an ailing painter who has a predilection for painting sacrificial scenes)
wedding	without alcohol (the subject is a teetotaler
grandmother	dead
wicked	R. (name of a patient who is a moral defect
to need	R. (name of a colleague)
[illegible]	and day
to threaten	threatener (*Drohweber*, nickname of a patient who frequently uttered threats
sour (*sauer*)	dough (*Teig* (*Sauerteig*, dough
young	Munich (newspaper *Jugend*)
family	day
sorrow	sorrowful
to pass [illegible]	[illegible]
[illegible]	R. (name of a patient
folk	*Folk-Psychology* by Wundt (a work that had recently been ordered by the hospital)
murderer	G. (name of a murderer who was just then in the hospital for examination)
everywhere (*überall*)	superman (*Übermensch*)
to calculate	slide-rule
[illegible]	M. (name of someone who had made a joke referring to the word [illegible]
to walk	L. (name of patient who often went for walks)
to cook	cooking lessons
water	supply
to dance	concert-hall (the hall in which the dances at the hospital are held
dark	room (the subject is an enthusiastic amateur photographer)
[illegible]	[illegible]
[illegible]	paws (claws is to be interpolated)
to swim	L. (name of a patient who often used the swimming pool
white (*Weiss*)	malaria (a patient named Weiss suffered from malaria)
game	Halma (which was at that time played in the wards.
[illegible]	shorthand (*to write* is to be interpolated; the subject was keenly occupied with shorthand)
[illegible]	[illegible]
thousand	Basel (a student friend of subject from Basel went under the name of "Tausig," the dialect form of *tausend* (thousand). The stimulus-word was of course called out in standard German but assimilated in the dialect form by the subject.)
[illegible]	[illegible]
[illegible]	sonny (the subject is the father of a new-born son,

[illegible]	dentist ("Wild" is the name of a dentist)
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	the dog
[illegible]	shorthand again (see above)
miracle	[illegible]
[illegible]	speech (in England the word must not be said)
[illegible]	[illegible]
ground	and sea
[illegible] (*Spiel*)	[illegible] (*Zeug*) (*Spielzeug*, 'toy')
[illegible]	[illegible] (name of a patient who had injured his arm)
blue	Grotto in Capri
strange	[illegible]
to growl	[illegible]
knock	East Swiss (memory of his student years)
[illegible]	to steal
false	trap
helmet	house (Helmhaus, a public building in Zurich)
[illegible]	[illegible]
hay (*Heu*)	Heustrich (name of a spa)
raspberry	park (the raspberries in the hospital garden)
a home (*daheim*)	newspaper (called *Daheim*)
vinegar	home-made
trap	mousetrap
throat	epiglottis
to strike	[illegible] (name of a doctor who had been struck by a patient)
[illegible]	C. (*Stern*, 'star', is the [illegible] of a patient in Ward C)
to stroke	[illegible]
grain *grass* [illegible]	[illegible] patient who was [illegible] merely as a sound-association)
[illegible]	[illegible] as (cf. the reaction wood / *ebony*. The subject has recently [illegible] travels in Africa)
friendly	H[illegible] (name of an acquaintance)
to float	S[illegible] (name of a famous airman)
[illegible]	[illegible]
rough	A[illegible] (Ra[illegible] is the name of a patient in Ward A)
to report	male nurse
[illegible]	police-barracks (the police in Zurich)
to separate	sulphuric acid
[illegible]	[illegible]

408 This type is [illegible] by the emergence of [illegible] [illegible] recent [illegible] be[illegible] [illegible] It goes [illegible] [illegible] to stroke / kitten, fidelity / little dog

(b) Complex-constellation type

42[illegible] Re[illegible] [illegible] feeling-toned complex appears [illegible] frequently. I[illegible] the sub[illegible] [illegible] educated men

wood	[illegible]
dream	studies (subject of associations)
exercise book	pen
paper	[illegible]
pencil	[illegible]
school	[illegible]
to sing	choir
ring	on the finger
[illegible]	[illegible]
window	frame
frog	hops
flower	[illegible]
[illegible]	[illegible]
[illegible]	I cannot play
[illegible] [illegible]	B. (name of a certain masseuse)
[illegible]	wool
to walk	a long way
to dance	hotel F. (a certain hotel where there was dancing)
dark	[illegible]
heat	red
[illegible]	feathers
to swim	movements
game	children
Kaiser	William
to hit	to beat
[illegible]	S. (name of an [illegible])
star (Stern)	Miss Stern (an actual person)
grand	ah!
[illegible]	children
dark red	again [illegible]
to ride	riding track
friendly	very [illegible]
[illegible]	queen
rough	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
to separate	W. (name of a mental patient whose marriage ended in divorce)
potato	[illegible]
to be lazy	[illegible]
[illegible]	I am not
[illegible]	with me to the theatre X (a certain theatre)
year	[illegible]
family	V. (subject's own family)
to make	I should
[illegible]	
finally	[illegible]
folk	[illegible]
slate	she is a teacher
pencil	
to grow	[illegible]
knob	[illegible]
false	blonde (a lady* who is false and blonde to [illegible])
[illegible]	[illegible]
clothes	[illegible]
softly	she comes along
gallantly	up the stairs
place	[illegible]
[illegible]	she cries
hay	[illegible] he's a farmer
raspberry	in the wood
at home	in D. (home of the sweetheart)

---

* [illegible] However [illegible] potted plant [illegible]]

[illegible]	[illegible] C. (a certain insane murderer in Ward C in the hospital)		wonder (miracle)	would have to happen
everywhere	K. is (the name of a mobile catacomb)		blood	she [illegible]
to calculate	I cannot		wreath	on the coffin
to kiss	again and again	story of a romance [illegible] terminated	to choose	another
[illegible]	wonderful		to part	I need not
[illegible]	to		right	she [illegible]
[illegible]	[illegible]		to have to	I do not have to
[illegible]	I am for it		[illegible]	[illegible] her
[illegible]	soldiers		revenge	oh no
ground	and soil		hope	I do not know
game	child		[illegible]	[illegible]
poor	poor as a beggar		to pray	perhaps
to quarrel	oh not		dear	she was to me
sofa	is soft to sit on		wool	a woman's dress
in love	ah		God	perhaps
son	son and father (the subject had had unpleasant quarrels with his family on account of his romance)		freedom	she could have
wild	mother (wild = angry; wild is here assimilated into the complex in the special sense of the dialect expression)		unrest	I was not
tears	she has now (that is, the abandoned sweetheart)		world	wide
[illegible]	[illegible]		strange	that she is now
[illegible]	I [illegible]		hedge	fence
[illegible]	I have not kept		lazy	sometimes (i.e., sometimes she is lazy)
once	and never again		to woo	a woman
			hot	love
			consciousness	yes, in the focus of consciousness
			[illegible]	[illegible]
			trap	into it
			to languish	yes, so-so
			riot	there is therefore [illegible]
			resin (*Harz*)	hair (*Haare*)
			[illegible]	yes, [illegible]
			omen	bad

[illegible] A strong feeling-toned complex is [illegible] this type of reaction. The [illegible] assimilated as a [illegible] [illegible] bears the [illegible] of a [illegible] a rather [illegible]eness of the [illegible] explains the somewhat [illegible] type. The mode of reaction can be explained by very strong [illegible]al sensitivity. The [illegible] and the egocentric references [illegible] the complex also point towards this. The su [illegible] egocentric [illegible] emerges [illegible] the [illegible] and [illegible] [illegible] type [illegible] generalize [illegible] state [illegible] caused [illegible] hysterical reaction.

Subject 2[illegible] of the group [illegible] educated women [illegible] as a good example of [illegible] complex [illegible] [illegible] given [illegible] section.

(c) Predicate type

132 Reactions [illegible] subject [illegible] stimulus word [illegible] a [illegible] educated women,

lake	beautiful nature	moon	[illegible]
schoolboy	diligent	to bear	[illegible]
father	[illegible], worthy and good, holy	[illegible]	[illegible]
needle	work	to sing	beautiful
bread	best food	ring	something safe
lamp	work	tooth	glad not to have any more
[illegible]	something good	frog	[illegible] necessary
[illegible]	terrible, climbing is nicer	flower	joy
hair	[illegible]	cherry	good fruit
salt	strengthens food	hospital	narrow
wood	fire	piano	mainly laborious
dream	many experiences	male nurse	respect
exercise book	much work for the children	fern	beautiful, wood
paper	blessed, because we write on it	stove	lovely in cold winter
book	joy	to walk	one sometimes must
school	joy	to cook	laborious
dozen	straight order	water	lovely
dark	horrible	to dance	gladly when one is young
heart	beats	cat	sneak
bird	lovely, to fly	star	magnificent
to swim	lovely	grand	pompous
white	bare, bright	child	gift of God
game	to enjoy	sweet	pleasant
thirteen	clumsy	to ride	dangerous

friendly	duty	to thank	sometimes [illegible]
crown	unnecessary	[illegible]	to hurt
rough	weather	[illegible]	to hurt

[illegible] The [illegible] strong personal [illegible] evalua[illegible] [illegible]

II. Sex Differences in the Experiment under Normal Conditions

[illegible] We [illegible] point [illegible] the sex differences [illegible] their averages (see Table D).

D. Sex Differences in the Experiment under Normal Conditions

SPECIAL QUALITY	MEN	WOMEN
Grouping	[illegible]8	[illegible]
Predicative relationship	[illegible]	[illegible]
Causal relationship	[illegible]	[illegible]
Co-existence		
Identity	[illegible]	[illegible]
Linguistic-motor forms	[illegible]	[illegible]
Word-completion		[illegible]
Sound	[illegible]	[illegible]
Rhyme	[illegible]	[illegible]
Indirect	[illegible]	[illegible]
Meaningless	[illegible]	[illegible]
Failures	[illegible]	[illegible]
Repetition of [illegible]	[illegible]	[illegible]
Egocentric reaction	[illegible]	[illegible]
Perseveration	1.5	0.8
Repetition of reaction	9.9	8.2
Same grammatical form	54.8	56.4
Same number of syllables	37.0	43.7
A[illegible]	[illegible]	[illegible]
Consonance	[illegible]4.0	[illegible]
Same ending	[illegible]	[illegible]0.9
Total associations	[illegible]	[illegible]800.0

In reviewing the figures, [illegible] struck by the [illegible] of the difference between the two sexes. With few exceptions the figures [illegible] totals [illegible] case [illegible] numerical differences that separate the group of educated from the un-educated [illegible]. In the [illegible] the type is somewhat [illegible] inter[illegible] than [illegible] sound associa-tions, [illegible] fewer associations. These phenomena may be [illegible] larger [illegible] egocentric [illegible] and sense centres seems, according to the investigations, to depend [illegible] difference in the figures [illegible] averages is analogous to the corresponding difference between educated and unedu-cated subjects. [illegible] uneducated ones [illegible] higher than the corresponding [illegible] figures of the experiment [illegible] normal [illegible] psychological [illegible] differences of this sort.

III. Averages [illegible] D[illegible] Experiments

3[illegible] We give in Tables E and F a comparison of the average figures from the distraction experiments. To facilitate compari-son we are giving the average for experiments under normal conditions alongside.

3[illegible] The figures for the distraction experiments show a pro-gressively [illegible] inner type [illegible] under normal conditions. The main difference is quite [illegible] of the internal associations decrease under distraction as op-posed to the external associations and sound reactions [illegible] which increase.

398 Looking at the figures for [illegible] associations we see that the women [illegible] give higher figures than the men. [illegible] lowest figures are [illegible] the women [illegible] with a higher number of internal associations [illegible] normal [illegible] women show somewhat [illegible] inner reaction type [illegible] conditions than educated men. The [illegible] number of

I [illegible]

[illegible]	[illegible]	EXTERNAL DISTRACTION [illegible]	
		[illegible]	[illegible]
[illegible]	25.2	[illegible]	[illegible]
Predicative relationship	20.4 }46.6	20.8 }46.9	19.0 }35.2
Causal relationship	1.0	0.7	0.5
Co-existence	10.4	16.2	8.5
Identity	5.0 }41.4	9.7 }52.2	9.2
Linguistic-motor forms	24.0	24.5	35.5
Word-completion	0.3	0.2	0.5
Sound	0.1 }0.7	1.7 }2.9	2.0
Rhyme	0.3	1.0	1.2
Indirect	0.7	1.2	0.7
Meaningless	0.4	0.7	0.2
[illegible]	1.4 }[illegible]	[illegible] }[illegible]	
Repetition of stimulus-word	0	0.5	0
Egocentric reaction	0.5	0.5	0.5
Perseveration	1.0	2.0	2.5
Repetition of reaction	9.5	8.5	5.0
Same grammatical form	58.9	62.5	62.0
Same number of syllables	46.0	47.5	44.7
[illegible]	8.4	[illegible]	[illegible]
[illegible]	[illegible]	8.5	
Same ending	11.9	11.7	16.0
Totals { Associations	1600	400	400
Totals { Subjects	8	8	8

[illegible] associations does not [illegible] as [illegible] women as in men [illegible] less adapted to [illegible] purposes [illegible] the experiment than were the men. Comparing [illegible] associations clearly shows the smaller interest of the women.

The remaining differences [illegible] are divided [illegible] three groups [illegible] The differences [illegible] men [illegible]

[illegible] Men

[illegible]	NORMAL	[illegible]	[illegible]
		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	8
[illegible]	[illegible]	[illegible]	8
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	8	[illegible]
[illegible]	[illegible]	2	[illegible]
Word-completion	0	0	
Sound	0.6 } 0.6	1.4 } 3.1	[illegible]
[illegible]	[illegible]	3	[illegible]
[illegible]	8	[illegible]	
[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
[illegible]	0	[illegible]	[illegible]
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Same ending	16.3	[illegible]	18.2
Total { Associations	400	350	350
Total { Subjects	7	7	7

[illegible] agreement [illegible] the minus difference [illegible] educated women is greater than [illegible] educated women, which would [illegible] better adaptation [illegible] the uneducated women to the experiment.

	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
Women	−5.5	−2.8	−8.8
Men	[illegible]	−11.8	[illegible]

Minus difference of internal associations *[illegible] Experiments [illegible] Educated [illegible]*

[illegible]	[illegible]	INTERNAL DISTRACTION	[illegible]	[illegible]
Co-ordination	[illegible]	[illegible]		
Predicate relationship	[illegible] } 55.4	5.0 } 8.5	[illegible]	[illegible]
Causal relationship	1.1	0.5	[illegible]	
Co-existence	19.8	[illegible]	2	[illegible]
Identity	[illegible]	[illegible]	[illegible]	[illegible]
Linguistic-motor forms	39.5	30.5	35.7	39.0
Word-completion	2.5	4.5	3.0	2.2
Sound	1.1 } 3.3	5 } 11.6	5.5 } 6.8	6.5 } 9.2
Rhyme	0.7	2.0	1.7	0.5
Indirect	0.9	1.6	1.0	
Meaningless	[illegible]	[illegible]	2	1
Failures	1.4 } 2.6	1.1 } 5.8	1.0 } 5.7	1.5 } 3.9
Repetition of stimulus-word	0.2	0.6	1.5	0.7
Egocentric reaction	2.1	1.0	2	[illegible]
Perseveration	[illegible]	1.0	[illegible]	[illegible]
Repetition of reaction	7.2	3.5	6.5	5.0
Same grammatical form	53.9	59.0	[illegible]	[illegible]
Same number of syllables	41.5	45.5	[illegible]	[illegible]
Alliteration	8.4	11.1		12
Consonance	14.6	19.9	[illegible]	[illegible]
Same ending	10.5	[illegible]	[illegible]	[illegible]
Total { Associations	1100	500	400	400
Total { Subjects	11	6	8	8

Accordingly, the plus differences [illegible] group [illegible] reactions again show a more significant increase in educated women than in uneducated.

	Uneducated women	Educated women
Plus difference of sound reactions	2.6	8.9 and 6.4

46 The [illegible] of [illegible] distraction [illegible] the [illegible] reactions [illegible] experiments was [illegible] variable [illegible] the uneducated female subjects. B[illegible]

[illegible]

[illegible]	[illegible]	[illegible] DISTRACTION	[illegible] 60 M.s	[illegible] 100 M.s
Co-ordination	16.3	8.6	15.6	10.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Causal relationship	0.7	0.8	0.4	0.6
Coexistence	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Linguistic-motor forms	34.2	38.0	35.2	42.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sound	1.9 } 2.8	15.8 } 20.7	8.0 } 9.6	9.8 } 8.2
Rhyme	0.6	0.6	0.4	1.8
Indirect	2.5	4.5	8.2	6.2
Meaningless	0.9	1.6	0.0	1.8
Failures	2.1 } 5.5	0 } 6	0 } 8.2	0 } 8.0
Repetition of stimulus-word	0	0	0	0
Egocentric reaction	2.8	1.1	0.8	1.6
Perseveration	2.4	1.6	2.0	5.0
Repetition of reaction	7.3	5.8	6.8	6.2
Same grammatical form	49.1	50.5	59.2	51.8
Same number of syllables	35.0	44.6	46.4	41.0
Alliteration	[illegible]	27.4	[illegible]	9.2
Consonance	15.6	35.3	24.6	20.6
Same ending	8.5	8.3	11.2	[illegible]
Total { Associations	1600	350	250	135
Total { Subjects	8	6	6	3

greatly carry out the instructions of the experimenter. The making [illegible] strokes and the simultaneous reaction, with somewhat [illegible] the men. If we compare, for example, the differences [illegible] and women [illegible] internal distraction experiment [illegible] immediately strikes us the more complete effect [illegible] the men. The [illegible] essential difference [illegible] groups is perhaps that educated women are capable [illegible] at times of [illegible] the attention.

It [illegible] we have here a certain difference [illegible] reaction [illegible] a difference that [illegible]. As [illegible] however [illegible] we [illegible] these observations for further discussion.

The figures [illegible] groups [illegible] discussion. [illegible] predicates [illegible] present a somewhat different aspect in men and in women.

	EDUCATED	UNEDUCATED
	Internal Distraction	External Distraction
Women	−0.8	0.5
Men	8.5	−4.7

Minus difference of the predicates

The table shows that under distraction the predicates decrease to a lesser degree in women than in men. Here let us remember that in the discussion of the predicate type we stated [illegible] images [illegible] predicates. This psychological peculiarity [illegible] experience [illegible] in the [illegible] images also [illegible] interest [illegible] attention as [illegible] the experiment. We [illegible] see [illegible] results [illegible] distraction experiment [illegible] predicate [illegible] we are referring [illegible] types among the women [illegible] reason for the apparent prevalence of the predicate. In [illegible] increase of internal associations there is [illegible] increase of external associations [illegible] influenced [illegible] sound reactions. The three [illegible] participate [illegible] in the increase of external associations. We [illegible] notice that the number of coexistences [illegible] We [illegible] differences again [illegible]

EDUCATED		UNEDUCATED	
Women	Men	Women	Men
[illegible]	[illegible]	3.4	0.4

[illegible] en normal experiment and distraction with reference to coexistences

They are a [illegible] exper[illegible] differences. [illegible] that [illegible] complexes [illegible] responsible [illegible] increase [illegible] associations. Recent [illegible] associations [illegible] complexes [illegible] imagination [illegible] stimulus [illegible] the decrease under distraction is comprehensible, [illegible] complex [illegible] is to some extent a separ[illegible] internal [illegible] decrease.

The groups [illegible] terms [illegible] general [illegible] differen[illegible] increase [illegible] reactions [illegible] example [illegible] decrease [illegible] groups. We explain [illegible] irregularities [illegible] The [illegible] responsible [illegible] practice in standard German. Experiments [illegible] Germans [illegible] Germans [illegible] figures. Sound associations are [illegible] more frequent in educated subjects than in uneducated.

The [illegible] association [illegible] strangely. We have [illegible] increase [illegible] first sight [illegible] dependence on the degree of distraction.

	[illegible]		[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]
Normal conditions	[illegible]	8	[illegible]	[illegible]
Distraction	[illegible]	[illegible]	[illegible]	[illegible]

These figures show [illegible] associations [illegible] on the average [illegible] produce fewer [illegible] than [illegible] associations [illegible] We [illegible] figure [illegible] women [illegible] only [illegible] insignificant [illegible] increase [illegible] This in this respect [illegible] difference [illegible] the sexes [illegible] present [illegible] The nature of [illegible] associations discussed above predominantly [illegible] reactions as intermediate [illegible] makes a dependent on the distraction, as already mentioned previously. Thus with the increase of sound reactions we can also expect an increase of indirect associations. For the sake of clarity we briefly repeat the relevant figures here:

	UNEDUCATED				EDUCATED			
	Women		Men		Women		Men	
	S.R.	Ind.	S.R.	Ind.	S.R.	Ind.	S.R.	Ind.
Normal conditions	0.7	0.7	0.6	0.8	3.3	0.9	3.6	2.5
External distraction I	2.9	1.2	3.1	3.4	10.2	1.0	9.6	9.2
External distraction II	3.7	0.7	1.0	1.4	9.8	0.2	8.2	5.2
Internal distraction (educated subject only)	—	—	—	—	11.8	1.6	20.7	4.5

Although the simultaneous increase of sound reactions and indirect associations under distraction, already mentioned above, is indicated in general in these figures, the parallelism of the two groups is in places somewhat [illegible]. If a parallel between the two groups really exists, one would expect that the maxima of indirect associations would sometimes coincide with the maxima of sound reactions. This is only [illegible] the case. In considering [illegible] the figures for the distraction experiments, the maxima of indirect associations are seen to coincide with the maxima only in two cases. No corresponding increases of indirect associations coincide with the maxima of sound reactions. Thus no clear and simple connection in the form of a direct proportion exists. Neither do these figures provide easily recognizable clues to an inverted relationship. Only the group of educated men shows a coincidence of a striking maximum of indirect associations with the maximum of sound reactions, which is nevertheless a moderate one [illegible]. In the female groups we see the indirect associations strikingly lagging behind the sound reactions. In the educated women [illegible] a strong increase of sound reactions, from [illegible] per cent under normal conditions to [illegible] per cent under distraction, corresponds to an increase of only [illegible] per cent of indirect associations, while the maximum coincides, as already stated, with a [illegible] of sound reactions. T[illegible] aspect [illegible] the indirect as[illegible] seems [illegible] interdependence [illegible] the [illegible] groups we see [illegible] increase [illegible] indirect associa[illegible] group [illegible] reactions. T[illegible] the gr[illegible] of reactions [illegible] associations, we get the following picture:

	[illegible]NEDUCATED				[illegible]ATED			
	[illegible]		[illegible]		Wom[illegible]		M[illegible]	
	S.R.	Ind.	S.R.	Ind.	S.R.	Ind.	S.R.	Ind.
External distraction I	[illegible]7	1.2	1.4	3.4	5.5	1.0	8.0	3.2
External distraction II	2.0	0.7	0.8	1.4	6.5	0.9	9.8	6.1

The [illegible] associations show [illegible] The [illegible] of sound associations [illegible] purpose of [illegible] is that [illegible] since [illegible] the same [illegible] sound group [illegible] associations that are suppressed [illegible] does not apply [illegible] for example [illegible] that [illegible] pure sound associations were represented [illegible] inverse relation. The [illegible] and [illegible] intermediate [illegible] indirect associations are [illegible] sound associations. [illegible] sound associations are [illegible] by [illegible] as [illegible] are [illegible] quite [illegible] the process of association [illegible] are [illegible] There will always be a certain tendency to suppress [illegible] the distraction [illegible] attention [illegible] the stronger [illegible] the greater [illegible] is the weaker it will be. With increasing distraction [illegible] and [illegible] influences [illegible] sound [illegible] is associated. Between the influence of [illegible] and [illegible] association there [illegible] though the sound association [illegible] the [illegible] exclusively after [illegible] the sense [illegible] interrupting the connection between [illegible] is [illegible] the sub[illegible] association is formed centripetally [illegible]

[illegible] association [illegible] almost reaches the threshold [illegible] of the [illegible] indirect association. Of course [illegible] need [illegible] necessarily always [illegible] sound associations [illegible] only [illegible] the [illegible] The [illegible] indirect association [illegible] repressed [illegible] indirect association [illegible] the interest [illegible] inversely [illegible] association and indirect association can be easily understood [illegible] sound association predominates, one can [illegible] of sounds [illegible] repression and consequently indirect associations [illegible] also preceded. The [illegible] sound associations [illegible] sign that [illegible] is increasing, this proved [illegible] indirect associations. The indirect associations are therefore [illegible] pre[illegible] at a certain degree [illegible] explains the increase [illegible] sound [illegible] the increase [illegible] point has been reached.

[illegible] Compared [illegible] the [illegible] from another angle [illegible] it is the [illegible] associations [illegible] From the results of experiment we [illegible] agreement [illegible] The [illegible] from a meaning [illegible] association [illegible] sound associations. But

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[illegible]

sphere. [For Bonhoeffer and Heilbronner, see Bibliography.]

[33] Cf. Claparède, *L'Association des idées* (1903), p. [illegible] and [illegible] "Association médiate dans l'évocation volontaire" (1903).

are too weak, however, to produce a reaction. If the sound association [illegible] meaning from the stimulus image [illegible] predominates [illegible] association [illegible] being [illegible] although [illegible] Piéron's interpretation [illegible] states [illegible] our experience. Nevertheless [illegible] Piéron's [illegible] it is [illegible] the existing stimulus [illegible] complexes [illegible] consciousness. We [illegible] discuss [illegible] further [illegible] later paper. Piéron's [illegible] with [illegible] From many examples [illegible] order to smoke [illegible] ashtray [illegible] Piéron's [illegible] connection with [illegible] directed [illegible] and [illegible] and [illegible] a vague feeling [illegible] South American atmosphere [illegible] memory [illegible]

[illegible] H. Piéron, "L'Association médiate," [illegible]

[illegible] given with slight differences.

[illegible] Spanish word [illegible] [illegible] [illegible] [illegible] [illegible] the subconscious was [illegible] [illegible] the observer had prepared himself [illegible] from the end [illegible] Peter [illegible] charged [illegible] desired [illegible] [illegible] [illegible] the subconscious [illegible] associations taking place in the subconscious [illegible] processes. [illegible] merely [illegible] results [illegible] experiments [illegible] associations [illegible]

[illegible] München (1889).

[57] Wundt, "Sind die Mittelglieder einer mittelbaren Assoziation bewusst oder unbewusst?" (1892).

[58] Scripture, "Über den assoziativen Verlauf der Vorstellungen" [illegible]

[59] William Smith, *Zur Frage der mittelbaren Association* (1894).

Mü[illegible] results, because their experiments were [illegible] the production of [illegible] associations. The [illegible] by [illegible] verbal [illegible] experiment [illegible] in distraction experiments.

Mean [illegible] shows, as is to be expected, an increase under distraction.

4 [illegible] of which has al[illegible] stressed in [illegible] the group of [illegible] presents a constant pattern. We [illegible] discussion of the average of the predicate type.

5 [illegible] meaningless reactions [illegible] under distraction.

58 We have combined the four last-mentioned groups to form the so-called residual group, which [illegible] general purpose of [illegible] normal subsidiary phenomena of the association experiment [illegible] group. From the number of this group [illegible] the emotional state [illegible] was brought [illegible] the experiment [illegible] associations [illegible] group [illegible] association in order to [illegible] prominence from [illegible] experiments [illegible]. Naturally, we [illegible] meaningless reactions [illegible] groups as experiments [illegible] failed [illegible] category.

[illegible] *Hypnotic experiments* [illegible] unconscious [illegible] in hypnotic states.

[illegible] Associations [illegible] "Experimentelle Untersuchungen über Associationen" (Rigg, pp. 58, 72, 95). The supposition that the intermediate links of mediate associations are unconscious is [illegible] phenomena must be [illegible]. The author would [illegible] academic [illegible] if he were at all acquainted with the results of hypnotism.

[illegible] were suggested by certain experiences [illegible] the association experiment [illegible] figures [illegible] results [illegible] experiments [illegible] nature [illegible] defined more precisely for these [illegible] groups. Meaning [illegible] and [illegible] as a rule [illegible] is produced [illegible] experience [illegible] based on [illegible] asked [illegible] feeling-toned complexes [illegible] experiment is set [illegible] featured [illegible] arguable [illegible] therefore [illegible] designation [illegible] group [illegible] group. [illegible] for this group. The summation of the figures for these groups was undertaken [illegible] arrangement [illegible] is provisional and inadequate [illegible] experiences [illegible] particularly [illegible] material [illegible] that [illegible] days. For [illegible] experience [illegible] before.

The [illegible] egocentric reactions [illegible] represent [illegible] differences from the results under normal conditions:

	[illegible]		[illegible]	
	Women	Men	Women	Men
No. of egocentric reactions under normal conditions	+0.5	+1.7	+2.1	+2.8
Difference under distraction	0.0	1.7	1.0	1.6

These differences show [illegible] that the differences [illegible] greater [illegible] the women [illegible] greater ego- [illegible] it more firmly under distraction than men do.

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[1] See Jung, "On Simulated Insanity."

458 With respect to perseverations, we have already several times proved a certain dependence on strong feeling-tones. As regards its frequent increase under distraction, we assume the [illegible] associations [illegible] dissociated [illegible] One [illegible] are involved here which we cannot separate beforehand. The following table of the differences from normal conditions shows the effect of distraction on perseverations.

UNEDUCATED		EDUCATED	
Women	Men	Women	Men
+1.8	−0.4	+[illegible]	−0.8

459 From these figures it appears that in men perseverations decrease under distraction, while in women they increase.

" The number of egocentric [illegible] gives a rough measure of how many feeling-toned references to the ego [illegible] the reactions;[illegible] the number of perseverations indicates something similar, though in a less direct way.

460 As stated above, in women there is less [illegible] From this one may conclude that the interference with the response in our experiment has proved less easy to achieve. The smaller change in the number of egocentric reactions in women may be connected with this. The number of [illegible] shows [illegible] slight tendency to decrease; a similar tendency is to be expected [illegible] perseverations [illegible] increase, however. We explain this by the [illegible] the associativeness [illegible] created [illegible] feeling-toned [illegible] associativeness can persist more easily than otherwise. Why women in particular should have the tendency to perseverate under distraction we cannot [illegible] say. Perhaps it is connected with more intense feelings?[6]

461 [illegible] differences [illegible] based on the following causes:

We have already [illegible] that various individuals [illegible] presumably [illegible] fundamentally [illegible] images than others. For [illegible] more vivid images [illegible] measure [illegible] have [illegible] a greater [illegible] appear simultaneously with many constellations excited by them; the larger an associative complex is, the more the ego is [illegible] also excited. It is therefore understandable that the vividness of the inner images [illegible] predicates increase [illegible] the number of subjects [illegible] the [illegible] is generally that is of egocentric reactions.

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[6] [illegible] all egocentric elements [illegible] reason that the experimenters are men.

2. The vividness of the inner image is by no means always a primary [illegible] phenomenon [illegible] found [illegible] words, [illegible] associations [illegible] image [illegible] appears [illegible] few [illegible] associations. This process is [illegible] the image [illegible] usually [illegible] complex [illegible] the vividness of the inner image is [illegible] primary and [illegible] the [illegible] case [illegible] The latter [illegible] under the [illegible] perceptual phenomenon [illegible] present [illegible].

3. [illegible] images are [illegible] very [illegible] from the first [illegible] associations. They must always have a quite definite [illegible] attention and [illegible] make [illegible] according to the [illegible]. This is, as we shall see, the case with the predicate type.

4. [illegible] images are [illegible] existing associative complex [illegible] of attention will be possible or not.

5. We have [illegible] reason to assume that the inner images [illegible] in general [illegible] the predicate type. We have, however, reason [illegible] demonstrate [illegible] that the [illegible] particular [illegible] the [illegible] process [illegible] such a complex responsible for [illegible] experience. As [illegible] the influence [illegible] stimulus words [illegible] necessarily [illegible] as our figures show. Thus [illegible]

[illegible] agrees [illegible] are [illegible] strongly [illegible] particular inter[illegible] educated [illegible] show [illegible] trained [illegible] interpreta[illegible] experiment [illegible] be related [illegible] sub-jects [illegible] are relatively [illegible] predicate types, who [illegible] phenomena at all. We therefore give [illegible] average figures [illegible] educated [illegible] who are not predicate types.

[illegible]

[illegible]	[illegible]	[illegible]	
		[illegible]	[illegible]
Co-ordination	[illegible]	13.5	10.8
Predicative relationship	14.0 } 30.2	14.0 } 28.3	9.6 } 20.8
Causal relationship	1.0	0.8	0.4
Co-existence	13.3	[illegible]	7.2
Identity	4.8 } 60.6	[illegible] } 50.4	8.8 } 62.8
Linguistic-motor forms	42.5	26.8	46.8
Word-completion	1.5	4.0	3.6
Sound	[illegible]	8.[illegible]	[illegible] } 4.8
Rhyme	0.8	2.0	0.4
Indirect	1.0	1.2	1.6
Meaningless	0.[illegible]	2.0	0
Failures	[illegible]	[illegible]	[illegible] } 4.2
Repetition of stimulus-word	0.4	0.0	1.2
Egocentric reaction	0.3	0.4	1.6
Perseveration	[illegible]	[illegible]	[illegible]
Repetition of reaction	6.9	4.8	3.6
Same grammatical form	41.8	63.2	42.4
Same number of syllables	60.1	47.6	57.2
Alliteration	8.5	13.2	15.2
Consonance	14.7	2[illegible].2	24.0
Same ending	12.6	15.2	5.2
Total: Associations	1200	250	250
Total: Subjects	6	5	5

From the figures [illegible] behind that of the men.

Repetitions of the same reactions increase with distraction; the reasons for this are easy to understand.

The numbers in verbal connections [illegible] thus expressing quantitatively the influence [illegible] reaction in terms of external and mechanical connections. It is noteworthy that an uneducated subject [illegible] greater agreement of grammatical form [illegible] distraction experiment increases this even more intensely than in educated subjects [illegible] less distinct. The following differences [illegible]

	Women	Men
Uneducated	+3.4	+[illegible]
Educated	+[illegible]	[illegible]

[illegible] command even under distraction.

The figures for agreement [illegible]

In [illegible] general decrease of figures [illegible] distraction [illegible] gradually recede.

[illegible] and under Distraction

Tables H and I give the average figures [illegible]

[illegible] average number [illegible] distraction [illegible]

[illegible] averages there are seven women and two men

[illegible] dinarily strange

[illegible]

[illegible]

[illegible] was used for calculation

[illegible]

That is, it concentrates attention upon itself

H. Averages of Predicate Types

SPECIAL QUALITY	NORMAL		[illegible] 60 Met		[illegible] 90 Met	
Grouping	12.5	45.7	14.8	45.5	[illegible]	45.8
Predicative relationship	32.1		[illegible]		40.5	
Causal relationship	1		0.5		0.2	
Coexistence	[illegible]		[illegible]		[illegible]	
Identity	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Linguistic-motor forms	[illegible]		[illegible]		[illegible]	
Word-completion	[illegible]		[illegible]		[illegible]	
Sound	[illegible]	[illegible]	[illegible]		[illegible]	
Rhyme	[illegible]		8½		[illegible]	
Indirect	0.8		[illegible]		[illegible]	
Meaningless	[illegible]		[illegible]		[illegible]	
Failures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Repetition of stimulus-word	0		[illegible]		[illegible]	
Egocentric reaction	5.6		[illegible]			
[illegible]	[illegible]		[illegible]			
Repetition of reaction	9.9		8.0		[illegible]	
Same grammatical form	40.7		[illegible]		[illegible]	
Same number of syllables	37.8		[illegible]		[illegible]	
Alliteration	7.9		[illegible]		[illegible]	
Consonance	18.9		[illegible]		[illegible]	
Same ending	6.7					
Total { Associations	1791		550		550	
Total { Subjects	9		7		7	

[illegible] The predicate type [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] associations [illegible] [illegible] [illegible] phenomenon [illegible]

By means of [illegible] hypotheses [illegible] the preponderance of the predicate type can now be explained.

The large number of predicates. The subject's name a par[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

I. *Averages of Non-Predicate Types*

[illegible]	[illegible]		[illegible]		[illegible]	
Grouping	21.5	46.0	18.0	29.9	[illegible]	[illegible]
Predicative relationship	23.5		11.3		[illegible]	
Causal relationship	1.0		0.6		[illegible]	
Co-existence	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Identity			[illegible]		[illegible]	
Linguistic-motor forms	[illegible]		[illegible]		[illegible]	
Word-completion	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sound						
Rhyme	[illegible]		[illegible]			
Indirect		[illegible]	[illegible]	[illegible]	[illegible]	
Meaningless	[illegible]		[illegible]			
Failures			[illegible]		[illegible]	
Repetition of stimulus-word			[illegible]			
Egocentric reaction	3.0		0.6		0.7	
[illegible]	[illegible]		[illegible]		[illegible]	
Repetition of reaction	8.5		6.9		4.0	
Same grammatical form	62.1		66.9		63.8	
Same number of syllables	42.9		47.3		48.5	
[illegible]	[illegible]		[illegible]		[illegible]	
Consonance	14.3		22.4		20.8	
Same ending	14.0		15.4		16.6	
Total Associations	4586		1000		1085	
Total Subjects	23		20		20	

[illegible] large number [illegible] associations [illegible] external [illegible] degree [illegible] appeared. The [illegible] the image.

The [illegible] image [illegible]. The more [illegible] the image is [illegible] greater [illegible] present [illegible] consciousness [illegible] given [illegible] [illegible] persistently [illegible] remain [illegible]. Thus a whole series of [illegible] added [illegible] designated as particularly striking proper[illegible] images [illegible] become [illegible]. [illegible] ego-centric reactions originate.

[illegible] relatively large number [illegible]. These [illegible] take place. It is [illegible] complexes are [illegible] essential [illegible] distraction [illegible] failures show a tendency to increase. [illegible] attention [illegible] the image [illegible]

[illegible] also obtains under different conditions.[illegible]

[illegible] *Stimulus-word on the Reaction*

As [illegible] stimulus-word [illegible] sequence. [illegible] stimulus-words that have [illegible] There is a large number [illegible] coexistent images are [illegible] stereotyped [illegible] e.g. [illegible]

[illegible] however, remains to be investigated.

[illegible] found the following average figures.

[illegible]

	Noun	Adjective	Verb	ASSOCIATIONS		[illegible]
				Internal	External	
Educated men	[illegible]	[illegible]	[illegible]	48.4	41.6	7.9
Uneducated men	[illegible]	[illegible]	[illegible]	39.6	47.4	[illegible]
Educated women	[illegible]	[illegible]	[illegible]	55.5	[illegible]	[illegible]
Uneducated women	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Predicate type	[illegible]	[illegible]	[illegible]	62.8	33.4	[illegible]
Non-predicate type	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.2

REACTIONS TO ADJECTIVES

	Noun	Adjective	Verb	ASSOCIATIONS		Sound
				Internal	External	
Educated men	53.1	43.6	2.9	43.5	45.0	8.0
Uneducated men	33.4	64.8	2.7	44.8	51.0	3.4
Educated women	39.1	52.6	7.4	43.3	45.4	[illegible]
Uneducated women	49.4	[illegible]	3.0	60.8	[illegible]	1.1
Predicate type	64.0	30.7	5.3	64.2	28.2	1.9
Non-predicate type	35.5	59.9	4.4	42.8	[illegible]	4.9

[illegible]

We decided against giving the individual figures [illegible] average figures [illegible] the characteristic variations [illegible] we are essentially concerned.

[illegible] groups [illegible] verbs [illegible] verbs [illegible] These [illegible] mediated [illegible] women [illegible] men are [illegible] the uneducated [illegible] of the preference [illegible] and predicate [illegible] needs [illegible] investigation.

[illegible] educated [illegible] uneducated men [illegible] the meaning of the [illegible] the [illegible] expect [illegible] others [illegible] significant about the meaning of the verb.

T[illegible] under the more difficult linguistic conditions, must be remembered [illegible]

[illegible] figures [illegible] We [illegible] preferred [illegible] figures [illegible] figures [illegible] the experi[illegible]

[illegible]

	Internal Associations	External Associations	Sound Reactions
Normal conditions	36.7	52.7	8.6
Reactions to verbs	48.4	41.6	5.4
Plus difference	11.7		

[illegible] preferred by this group possess a higher quality

[illegible]

	Internal Associations	External Associations	Sound Reactions
Normal conditions	46.6	49.4	0.7
Reactions to verbs	69.0	29.6	0.9
Plus difference	22.4		

[illegible] from these figures that [illegible] approximate [illegible] groups [illegible]

[illegible] proportion [illegible] educated persons [illegible] Conversely [illegible] the corresponding figures [illegible] increased [illegible] verbs. From the ratios of these figures it is permissible to conclude that on account of their lower frequency and consequently the greater difficulty [illegible] the influence of verbs on attention is greater than that of nouns.

482 The [illegible] at a glance at the [illegible] states a [illegible] verbs except [illegible] greater [illegible] the [illegible] reaction type [illegible] generally [illegible] little difficulty.

483 The predicate type reacts to verbs predominantly with nouns, while on the average all non-predicate types react to verbs with twice as many verbs as the predicate type." We examine again the [illegible] of the associations with which the predicate type reacts to verbs.

	PREDICATE TYPE			NON-PREDICATE TYPE		
	Int. Assn.	Ext. Assn.	S.R.	Int. Assn.	Ext. Assn.	S.R.
Normal conditions	45.7	48.6	5	36.6	58.0	5.5
Reactions to verbs	62.8	33.4	3.7	52.4	41.8	4.2
Plus difference	7.4			16.4		

[illegible] As [illegible] differences show [illegible] the same [illegible] differences [illegible] internal associations [illegible] found in the [illegible] predicate type corresponds to [illegible] the predicate type. Thus we have [illegible] reason to suppose [illegible] the predicate type [illegible] has a greater [illegible] presents greater [illegible] The predicate type [illegible] difference [illegible] relation [illegible] the verb [illegible] educated subjects in general [illegible] greater

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[illegible] of [illegible] calculations only two are uneducated and of these only one is a woman.

[illegible] are educated subjects.

[illegible]

	[illegible]	[illegible]	S.R.	[illegible]	[illegible]	S.R.
Normal conditions	45.1	48.8	1.5	36.0	58.2	2.5
Reactions to adjectives	64.2	28.2	9.0	42.8	51.0	4.9
P. [illegible] difference	8.5			6.8		

[illegible] the non predicate type.

[illegible]

[illegible] they then name in their reactions.

[illegible] responds to a predicated psychological disposition, which is fundamentally excited by other forces, reaction would be much easier than the predicate form.

SUMMARY

498 The associations show normal variations principally under the influence of:

(1) Attention.
(2) Education.
The individual characteristics of the subject.

499 (1) Decrease of attention, whether due to internal or external factors, results in a change of the reaction type: the internal or valent associations recede before the external associations or sound associations.

Distraction [illegible] according to our experimental design, caused apart from the above-mentioned changes an increase of mediate associations, which must therefore be interpreted as distraction phenomena and can be considered as internal links formed by the combination of two weakly stressed less valent associations.

Educated subjects have a higher reaction type on the average than uneducated. The difference can essentially be explained by [illegible] the stimulus word.

No essential differences emerged in the degree of diversion of attention by distraction between educated and uneducated subjects.

The most considerable variations in associations are conditioned by individual differences.

500 As regards the effect of sex on the [illegible] under normal conditions no clear differences emerge in the average figures. Only in the distraction experiments [illegible] the figures of female subjects show that they possess less capacity to divide attention than male subjects.

(2) The individual variations can be classified into the following types:

I. [illegible] The stimulus-word is taken [illegible] that is:

α. [illegible] tion is matched to the sense of the stimulus-word [illegible] same word.

β. [illegible] background.

II. [illegible] The stimulus-word is taken [illegible] tively (egocentrically).

α. [illegible] The personal element is used [illegible]

αα. The [illegible] without concealment.

ββ. [illegible] as a result [illegible] repression.[1]

β. [illegible] The [illegible] phenomenon.

40 As a general result [illegible] emerges that [illegible] and their consequences.

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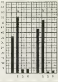
[1] We use the term "repression" in the sense of Breuer and Freud, to whose work [illegible] work.

6. [illegible] that [illegible] Professor [illegible] [illegible] [illegible] [illegible] [illegible] greater [illegible] [illegible]

EXPLANATION OF GRAPH

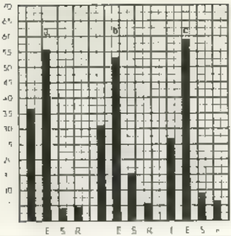
1. [illegible] accompanying graphs [illegible] [illegible] external [illegible] [illegible] [illegible] in [illegible] read a group of different groups are presented. The averages shown are

I. Internal associations S. Sound reactions
E. External associations R. [illegible]



Graph [illegible] [illegible] [illegible]
[illegible] Educated Subjects [illegible] [illegible] associations
B. [illegible] Subjects [illegible] [illegible]

[illegible] *Graph I.* The educated subjects [illegible] [illegible] external [illegible] [illegible] than the uneducated subjects



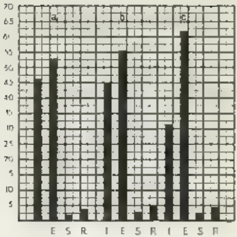
[illegible] from Experiments with [illegible] under External Distraction

[illegible]

(b) Distraction experiment with [illegible] metronome-beats per minute; [illegible] subjects, [illegible] associations

[illegible] per minute; [illegible] subjects, 845 associations

[illegible] sum (E + S) is indicated in places by [illegible]



Graph II. Averages from Experiments with Uneducated Subjects under External Distraction

a. Normal conditions (Graph I, b.) [illegible] subjects, [illegible] associations

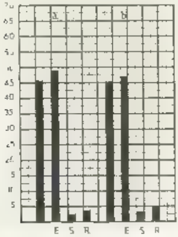
b. [illegible] experiment, first part [illegible] subjects, [illegible] associations

c. [illegible] experiment, second part [illegible] subjects, 750 associations

Graph II. The pattern, apart from the different starting point, is similar to the distraction experiment with educated subjects.

Gradual decrease of internal associations [illegible].

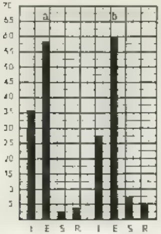
Gradual increase of external associations [illegible] R[illegible] [illegible] [illegible] play a [illegible] smaller part than in educated subjects.



Graph [illegible] Averages for Experiments with Subjects [illegible]
Predicate Type (Educated and Uneducated

(a) Normal conditions, 9 subjects, 1,7[illegible]
[illegible] experiments [illegible]
[illegible] taken together [illegible] subjects [illegible]

Graph 4. While in educated subjects [illegible] of I E is [illegible] and in uneducated subjects I E is 5[illegible] there is [illegible] S is [illegible] in uneducated subjects but greater [illegible] in educated [illegible] normal [illegible] group R [illegible] is [illegible] very [illegible] contrast [illegible] preceding graphs. [illegible] changes under distraction. [illegible] decrease [illegible] I and [illegible] increase [illegible] E + S. [illegible] has increased a little.



Graph I. Average [illegible] Experiment [illegible]
(Non-predicate Types)
a) Normal conditions
(b) Distraction experiment

Graph I. The picture is a striking contrast to the picture in graph IV. Under normal conditions the ratio I : E : S [illegible] is [illegible] approximately [illegible] 2 [illegible] in the distraction experiment [illegible] approximately 2 [illegible] S increases considerably, R less.

AN ANALYSIS OF THE ASSOCIATIONS OF AN EPILEPTIC

[illegible] Here [illegible] gnized textbooks of psychiatry.

[illegible] preponderance of fantasy.

[illegible] exaggerated [illegible] ones.

[illegible] possible to make the diagnosis [illegible] cases, however, [illegible]

Repeated attempts [illegible] experimental [illegible]

[illegible] *Studies in Word Association,* pp. 206-08. See supra, par. 1 n.

[illegible] Colucci [illegible] and Riklin [illegible] tested [illegible] of the ergograph. Sommer [illegible] Fuhrmann [illegible] We [illegible] tion of epileptic degeneration.

[illegible] [illegible] an investigation [illegible] The [illegible] a patient [illegible] taken [illegible] par[illegible] repeated [illegible] following reactions:

1.	bright	faith	5.	red	parents
2.	dark	health	6.	yellow	father
3.	white	arm	7.	green	coat
4.	black	blue	8.	blue	arm

499 F[illegible] [illegible] text-book where he states:

> [illegible]

---

[3] [illegible] ergografico nei normali e negli Epilettici" ([illegible])

[4] "Über Ermüdungskurven bei Gesunden und bei einigen Neurosen und Psychosen" (1904).

[5] [illegible]

[6] *Analyse des Vorstellungsmaterials bei epileptischem Schwachsinn* (1902).

[7] [illegible] (1907).

In 1905 I demonstrated the frequent occurrence of such meaningless connections in a subject in a state of emotional stupidity [illegible] my paper "On Simulated Insanity." Wehrlin [illegible] these facts [illegible] associations [illegible] According [illegible] experience [illegible] meaningless reactions [illegible] with the patient [illegible] state [illegible] part a number of the [illegible] that these [illegible] reactions are therefore [illegible] specific for epilepsy.

[illegible] Fuhrmann [illegible] carried out after about a month.

The second case concerns a patient [illegible] six [illegible] Here the experiment was [illegible] a considerable [illegible] general [illegible] Fuhrmann appears to assume.

Riklin [illegible] Epilepsy [illegible] associations [illegible] with epilepsy [illegible] findings.

The facts [illegible] action, and a paucity of ideas.

These [illegible] character. Riklin states that it is possible [illegible] associations. In [illegible] Riklin's [illegible] however [illegible]

---

[1] "The Associations of Imbeciles and Idiots," 1904.

[2] "Hebung epileptischer Amnesien durch Hypnose," 1902.

[illegible] shows very marked perseveration [illegible] Perseveration [illegible] Association Studies [illegible] as well as [illegible] generally, and in a certain sense also [illegible]

In [illegible]

[illegible]

East [illegible] leaving school, i.e., after puberty.

[illegible] Wehrlin's paper [illegible]

---

[1] "The Associations of Normal Subjects," [illegible]

In [illegible] [illegible] [illegible] words [illegible] kinds of [illegible] [illegible] associated types [illegible] be very [illegible] the [illegible] [illegible] the [illegible] age [illegible] [illegible] [illegible] [illegible] [illegible] degeneration [illegible] [illegible] [illegible] greater [illegible] [illegible] [illegible] necessary to eliminate the cases we have mentioned.

For [illegible] reasons [illegible] [illegible] [illegible] [illegible] in this work I [illegible] analysis [illegible] case [illegible] [illegible] [illegible] [illegible] [illegible] the analysis of [illegible] epileptic [illegible] association.

[illegible] [illegible] [illegible] [illegible] [illegible] take [illegible] [illegible] [illegible] [illegible] the associations.

The preparation [illegible] [illegible] experiments [illegible] [illegible] [illegible] One [illegible] [illegible] as [illegible] preparative [illegible] experiment [illegible] [illegible] [illegible] [illegible] get [illegible] [illegible] [illegible] [illegible] [illegible] on the results, as I have [illegible] [illegible] [illegible] introduce the experiment in each case [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] has [illegible] [illegible] [illegible] [illegible] [illegible] The association is [illegible] [illegible] [illegible] the experimenter gives [illegible] [illegible] complete [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] reaction [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] characteristic [illegible] We take special [illegible] [illegible] [illegible] [illegible] possible what [illegible] [illegible] [illegible] [illegible] characteristic [illegible] of [illegible] response [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] necessary [illegible] [illegible] [illegible] [illegible] the experiment [illegible] [illegible] senting the experiment as a sort of game.

For these [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] denote abstract ideas [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] stimulus words [illegible] as mixed as possible [illegible] possible [illegible] a number of emotionally charged ideas were interspersed [illegible] of these words. The reaction times were checked by a fifth-second stop-watch.

8 I have chosen the following case [illegible] material.

[illegible] every [illegible] brought in here for observation, which revealed

[illegible]

[illegible]
Intolerance of alcohol to a high degree.

[illegible] reaction-types.

			s.
1.	coal	hard coal	[illegible]
2.	moderate	enough, little	
3.	song	to sing, to sing a song	
4.	to assume	I assume, what do I assume? several things	[illegible]
5.	pain	because I am ill	
6.	rotten	if an apple is rotten, a pear, everything can get rotten	[illegible]
7.	moon	that is the moon in the sky, here we have the moon	[illegible]
8.	to laugh	[illegible]	
9.	coffee	one drinks it, drinks every day	4.0
10.	wide	this is the width of a distance (accompanied by an explanatory gesture)	6
11.	air	this is the air, that's air, healthy or unhealthy, fresh air is fresh air	2.2
12.	to carry (to wear)[14]	I carry (or wear) something, a burden or fine clothes	5.0

[illegible]

[illegible] time in seconds

[illegible] an example [illegible] actually in sentence-form.

[illegible] People [illegible] fused with the reactions that now concern us.

In the [illegible] at anything pathognomonic.

[illegible]

[illegible] not to explain the strong affect

Ibid. par. 438.

[illegible] a mental [illegible] to understand a [illegible]

[illegible] inferred that we are faced with some abnormality.

[illegible]

[illegible] garded as "tautological clarifications":

to assume	I assume
to carry	I carry something
air	this is the air

[illegible] examples:

moderate	eating little
rotten	if an apple is rotten
wide	this is the width of a distance (with explanatory gesture)

557 These indicate the main quality or activity:

to laugh	man laughs
coffee	one drinks it

[illegible]

song	to sing, to sing a song
coffee	[illegible]

[illegible] needs to accentuate his tendency to explain.

[illegible] different ways.

[illegible] subjects.

[illegible] paranoia, therefore?

[illegible]

[illegible]

---

[1] See "The Associations of Normal Subjects," par. 427.

[illegible]

[illegible]	I fall down	to run	I run sw[illegible]
to loathe	I loathe rotten fish	a[illegible]re	I ask father's a [illegible]
head	I have a head	reward	I deserved the reward

[illegible] subject "one."

[illegible] *cause I am* [illegible]

[illegible] which the subject words his explanation [illegible]

[illegible]

---

[14] Case 19 of Wehrlin's paper.

[illegible] would not have made sense in this example.

[illegible] more complete.

[illegible] *fresh air is fresh air* [illegible] See also 6, 7, 10.

[illegible]

[illegible] towards egocentricity and elaboration.

[illegible]

13. plate	dinnerplate—dinnerplate—for dining	

[illegible]

14. tired	I am tired—yes, tired—the body is tired.	3.0
15. intention	I have the intention—to invent a machine—to draw—to provide—to live properly	19.0

[illegible]

[illegible]

16.	to fly	the bird flies	4.8
17.	eye	the eye sees	2.8
18.	strong	am strong, that is strong	4.6

Again a clumsy ego-reference followed by a confirmatory but unnecessary sentence.

19.	fruit	this is a fruit, a tree fruit	7.0

[illegible]

20.	to create	to work hard means to create	3.6

[illegible]

21.	sail	a sail is a sailing boat on the water	6.8

[illegible]

[illegible]	modest	yes, man is modest when he has learned something	9.0

[illegible]

[illegible]	floor	floor of the room	9.8
[illegible]	to whistle	I whistle	3.2
[illegible]	purpose	for what purpose? For what purpose are you doing this?	5.6

[illegible] understands the stimulus-word as a question.

26.	hot	it's too warm, too hot	2.0

[illegible]

[illegible] Cf. "The Associations of Normal Subjects," par. 408.

[illegible] I [illegible] the subject [illegible] [illegible] I [illegible] *warm, too hot*

87	resin	fir resin, the resin grows on the fir-tree, on the pine-tree	9.8
88	to arouse	I arouse—I arouse my friend he is asleep	8.4

B[illegible] are again characterized [illegible] great [illegible]completeness, especially [illegible] later [illegible] the subject [illegible] completes the picture by *he is asleep*

89.	apple	there are various apples	6.6

This reaction [illegible] extremely frequent [illegible] exactly the same form in other [illegible]

90.	wicked	one says, who is wicked? so-and-so is wicked, that is a wicked person	6.0
91.	case	a brief-case	3.0
92.	[illegible]	I [illegible]	[illegible]
93.	bed	sleeping—I have the bed for	3.0
94	worthy	that person is worthy to whom h[illegible] honour is due (etc.)	9.4

T[illegible] mental [illegible] congenital mental [illegible] that the patient [illegible] the language [illegible] neologisms. However, [illegible] the association experiment [illegible] momentary emotional disturbances that interfere with the [illegible] expression. We shall [illegible]

95.	danger	I am in danger in danger of life	4.8
96.	to visit	I visit a patient	4.8

The [illegible]

97	locksmith	I am a locksmith, an artisan	2.8
98.	high	the steeple is usually high	4.8
99.	hatchet	the hatchet is an axe	3.4
40.	to mix	don't mix yourself up in other people's affairs	6.0

[illegible] common in normal subjects.

41. path	that is a footpath, a field path	3.2
42. round	it is a sphere, otherwise it is not a sphere. [illegible] it is not round	3.8

[illegible]

43. blood	every man has, every animal only good or bad, that is the difference	3.4

In [illegible] R[illegible] and R[illegible] [illegible] feeling [illegible] definiteness [illegible] associations [illegible]

44. to let	I let lodgings	6.0
45. cautious	Man be cautious	4.8
46. merry	I am merry, I am gay	3.6

[illegible]

Sunday	consists of a day when one does nothing, when one goes to church
[illegible]	[illegible]
salt	something to salt with. One salts meat
exercise-book	is made of paper. One makes a newspaper of it
ring	on the finger—jewelry—chain
[illegible]	[illegible]
piano	[illegible] have played it, near to it (even tells a story of an organ player)
to swim	in the lake, in the water, in the R[illegible] one needs swimming trunks
[illegible]	[illegible]
seat	[illegible] of plan[illegible]

[illegible] and does not stick anxiously to the stimulus-word.

47. market	the annual fair, that is a market, the fair at Basel, only recently took place	7.0
48. to forget	I have forgotten something	5.0
49. drum	the kettle-drum is a drum	5.2
50. free	I am free—I am free, I am a free citizen, it would be nice if only it were true	4.0

[illegible] the [illegible]

[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible] insolent, insolent in their speech, insolent behaviour	6.8
54. fast	the engine runs fast (probably a constellation arising from his daily work	[illegible]
55. fireplace	is a chimney, a factory chimney	
56. to enjoy	I enjoy an evening entertainment, I enjoy pleasure	4.0
57. parson	is a clergyman, a pastor that ought to be a righteous man	2.2

[illegible] ency in the epileptic to moralize?

[illegible]	what is not easy is difficult	5.0
[illegible]	is the neck (points at his neck) every man has a neck	2.8
60. to wish	I wish you luck in the New Year	9.6
61. stone	a marble stone, there are various stones, stone is a product of nature*	4.6

[illegible] frequently use in a truly grotesque way

[illegible]	[illegible]	[illegible]
63. hose	the rubber hose is a hose	4.0
64. to love	I love my neighbour as myself	5.0

---

* [German *Naturalie*, which is felt to be a foreign word.]

[illegible] chosen at random

1. friendly — I love father
2. to be angry — if one loves one's mother
3. [illegible] — [illegible]
4. if one loves someone — 9. if one likes someone

[illegible]

With one exception (6) the imbeciles react very impersonally and in a considerably less colourful way than the epileptic.

65. [illegible] — there are grooved tiles in Basel
66. [illegible] — is bad weather, is humid, is warm [illegible]

[illegible]

new [illegible]

[illegible]

[illegible] of the critical or of the following reaction

[illegible]

[illegible] increase 5.6—6.8—9.0

[illegible] fore not unlikely.

[illegible]

---

[21] [illegible] is in any case a very insidious word for certain people.

[22] (R. T. = reaction-time of the following association.)

reaction *I am free—I am a free [illegible], it would be nice if only it were true* 4.0 (R.T. 4.4)

[illegible]

place near strong emotional charges.

[illegible]

incorrect construction is given in italics)

18.	strong	and vigorous, that is, strong	4.6
19.	fruit	(stimulus-word repeated) this is a fruit, *a tree-fruit*	7.0
20.	to create	to work hard means to create	3.5
21.	sail	(stimulus-word repeated) *[illegible] it is a sailing boat* on the water	6.8
22.	bed	sleeping—I have the bed for	8.0
	[illegible]	[illegible] worthy *to whom high honour is due*	9.4

[illegible]

[illegible] the repeated.

[illegible] preceding [illegible] prolonged beyond the average of the others.

[illegible]

[illegible] be the cause of the incorrect constructions.

From these [illegible] we can see [illegible] specific [illegible] processes. Here perhaps [illegible] processes [illegible]

[illegible] averages [illegible] responding [illegible] If [illegible] there are [illegible] marked [illegible] because of their [illegible]

---

[1] I found in normal subjects that reactions constellated by a conscious or [illegible] the emotional charge can even involve the following reaction, for which the reaction-time also becomes prolonged.

[2] [illegible] (For calculation, see my later paper on reaction-times.)

[illegible] mated is 4.8 secs.

[illegible]

[illegible] critical association is unusually prolonged.

[illegible]

[illegible] sarily abnormally prolonged.

[illegible] complex.

5. pain	because I am ill	4.2 (R.T. 5.8)
4. tired	I am tired—yes, tired— the body is tired.	8.0 (R.T. 13.0 Rr)

[illegible] of the abnormality of the feeling-tone. It is, however, not unthinkable that the [illegible] and [illegible] perseverations of [illegible]. There is, however, some [illegible] Rr = repetition of the stimulus word in the following reaction.

18. strong	am vigorous, [illegible] strong	4.6 (R-T 7.0 Rr)
45. blood	every man has, every animal only good or bad, that [illegible]	[illegible]
16. merry	I am merry, I am gay	3.6 (R-T 7.0 Rr)

A more remote constellation might be

11. air	[illegible] is as the air—healthy or unhealthy	2.2 (R-T 5.6
96. to visit	I visit a parent	4.8

The reaction following is

97. locksmith	I am a locksmith, an artisan	3.8

[illegible] less [illegible] that [illegible] greatly [illegible] The fear [illegible] expression that he might [illegible] ever be [illegible] danger [illegible] danger. [illegible] a complex.

20. to create	to work hard means to create	3.6 (R-T 6.8 Rr)
[illegible]	I am in danger, in danger of life	4.2 (R-T 4.8)
[illegible]	I am free—I am free, I am a free citizen, it would be nice if only it were true	4.0 (R-T 4.4 Rr)
60. to wish	I wish you luck in the New Year	3.0 (R-T 4.6 R)

Regarding [illegible] before [illegible] patients [illegible] examples [illegible] constellated [illegible] associations [illegible] constellated by such complexes.

SUMMARY

[illegible] normal persons [illegible] Therefore there are no superficial word associations.

[illegible] complex

II. [illegible]

(a) The [illegible]

(b) The associations are in sentence-form

The [illegible] pared with the normal

The [illegible]

[illegible] rects

[illegible] acts

[illegible] (religious, moralizing, etc.)

[illegible] the normal subject.

[illegible] ture of the skull sets it apart.

THE REACTION TIME RATIO IN THE ASSOCIATION EXPERIMENT

[illegible] the present [illegible]

1. Transmission of sound to the ear of the reagent
2. Neural conduction to the auditory centre.
3. Word-recognition (primary identification)
   [illegible]
   [illegible]
- Naming of the idea evoked.
- [illegible] graph key.

8. Neural conduction to the muscle.

A [illegible] processes are [illegible]

[illegible] Studies in Word Association, pp. 207-65. See supra, par. [illegible]

[illegible] Ziehen, "Die Ideenassociation des Kindes" (1900), p. 14.

[illegible] are by no means exhausted in this summary.

[illegible] of the greatest importance.

[illegible] with a 1/5-second stop-watch, there are [illegible] methods ([illegible] Mayer and Orth. [illegible]

[illegible] mark the moment when the reaction is uttered.—C. A. M.

[2] "Zur qualitativen Untersuchung der Associationen" (1901).

[illegible] surements are impossible.

[illegible] who are easily upset.

[illegible] ments.

[illegible]

[illegible] *sprachlichen Analogiebildung* (1901 [illegible]

[illegible]

[illegible] Op. cit., p. [illegible]

[illegible] "The Associations of Normal Subjects." [illegible]

Here are the number and analysis of the total reaction-times:

1.	7 uneducated women	1,201 reaction-times
2.	7 uneducated men	1,007 "
3.	6 educated women	948 "
4.	6 educated men	988 "
	26 subjects	4,144 reaction-times

A. *The Average Duration of an Association*

In his studies of associations, Aschaffenburg[1] says: [illegible] fact [illegible] can be seen [illegible] the association [illegible] and [illegible] greatest [illegible] attributed to the absolute duration.

As [illegible] the reaction [illegible] final figures. Corresponding [illegible] the average [illegible] of association [illegible] in the same [illegible] average [illegible] as the average [illegible] figures range between [illegible] and 890 σ.

These ex[illegible] differ [illegible] the greatest [illegible] between [illegible] differences [illegible] be reduced to the following points:

1. The [illegible] pressure [illegible] the [illegible] apparatus [illegible] experiment [illegible]
2. The degree of [illegible]
3. [illegible] between [illegible] the mean [illegible] I [illegible] use:
   - *a.* The arithmetical mean.
   - *b.* The probable mean (Kraepelin).

In view of the fact that excessively long reaction-times [illegible] the [illegible] experiment the [illegible] the arithmetical mean does not appear advisable [illegible]

---

[1] "Experimentelle Studien über Associationen" (1896), p. 278.

[2] *The Pathology of the Emotions* (orig. 1892).

[3] Psychologische [illegible]

[4] Experimentelle [illegible] Association [illegible] 1889.

[illegible] average [illegible] [illegible] ending [illegible] using [illegible] [illegible] changing the figures [illegible] [illegible] [illegible] In [illegible] the [illegible] [illegible] [illegible] example [illegible] the following [illegible]

Probable mean	1.8	2.0	1.6
Arithmetical mean	2.8	8.9	5.6

As the example shows [illegible] influence [illegible] [illegible] [illegible] [illegible] representative [illegible] [illegible] for this reason [illegible] [illegible] [illegible] figures [illegible] [illegible] [illegible]

12. For [illegible] appears [illegible] [illegible] averages from large numbers of figures.

13. The number of subjects used [illegible] [illegible] values [illegible] [illegible] and [illegible] [illegible] sided.

14. My endeavors have [illegible] towards discovering [illegible] means [illegible] approximate figures [illegible] [illegible] extent [illegible] the levels [illegible] normal [illegible] from varying [illegible] [illegible] associa[illegible] [illegible] has [illegible] in [illegible] several years [illegible] important [illegible] future [illegible] [illegible] seems [illegible] general [illegible] [illegible] logical values.

15. The general mean [illegible] of the [illegible] of an associa[illegible] [illegible] figures [illegible] [illegible] the [illegible] [illegible] arithmetical mean [illegible] [illegible] individual values. This [illegible]

[illegible] these twenty-six subjects represent a very modest number and [illegible] values than the [illegible] through the application of the probable mean.

575 This mean is [illegible] considerably higher than the values given in the literature. The causes [illegible] can be attributed to the following:

1. The persons [illegible] represent [illegible] subjects [illegible] strata.

2. [illegible] of the subjects are [illegible] may refer to.[13]

576 The varying data show [illegible] the interpretation [illegible] the values [illegible] demonstrated by classifying the subjects according to certain simple criteria and comparing the figures of the individual groups.

B. Sex and Reaction-time

As already mentioned, [illegible] give longer times [illegible] women than men. This [illegible] by our figures:

men	1.6 secs
women	2.0 secs

These figures [illegible] that women [illegible] in our association experiments. [illegible] educated women [illegible] men. As may be known from Kraepelin's [illegible] investigations [illegible] women [illegible] higher figures than [illegible] subjects [illegible] a considerably higher percentage of

---

[12] "The Associations of Normal Subjects," supra, par. 10.

[13] [illegible] geistiger Vorgänge im hohen Greisenalter" (1900).

[14] "The Associations of Normal Subjects," supra, pars. 496ff.

[illegible]

579 [illegible]

C. Educational Level and Reaction-time

	Educated Subjects	Uneducated Subjects
Men	1.8 secs.	1.8 [illegible]
Women	[illegible]7	2.2
Average	[illegible]5	2.0 [illegible]

580 [illegible] to the longer reaction-time

---

[18] "Die Ideenassoziation des Kindes."

[19] "Experimentelle Studien über Assoziationen"

[illegible]

[illegible]

---

[1] [illegible] experimentelle Studie über die Association in einem Falle von Idiotie [illegible]

[2] "The Associations of Imbeciles and Idiots" (orig. 1904).

[illegible] probably the difference of sex.

[illegible]

[illegible]

[illegible] regular occurrences appeared, namely

[illegible]

[illegible]

Thus the [illegible]

[illegible] noun, adjective, or verb.

[illegible] of an adjective or verb.

[illegible] adjectives as stimulus-words.

[illegible]

[illegible] approximately the same proportion.

[illegible] "The Associations of Normal Subjects," supra, pars. 475ff.

[illegible] is a result [illegible] more external connections.

[illegible] are easily startled by abstract terms.

[illegible]

Concrete nouns	1.67 secs.
Abstract nouns	1.95
Adjectives	1.7
Verbs	1.90

[illegible] also to be expected.

[illegible] are divided into groups:

Probable Mean of the Reaction-times of Concrete Nouns etc. as Stimulus-words

	[illegible]		[illegible]	
	Women	Men	Women	Men
Concrete nouns	2.1	1.7	1.6	1.4
Abstract nouns	2.8	1.9	1.8	1.8
Adjectives	2.2	1.7	1.7	1.2
Verbs	2.4	2.0	1.9	1.5

The table shows [illegible] have longer re[illegible] [illegible]

---

[22] The individual values on which this table is based vary between 1.0 and 4.4 seconds.

[illegible] have the longest [illegible] in response [illegible] shows that [illegible] association [illegible] these elements [illegible]. It [illegible] figures [illegible] values that [illegible] appears that [illegible] obtained by labial key and chronoscope.[28]

F. *The* [illegible]

The [illegible] expand [illegible] what happens [illegible] verb.

[illegible]

concrete nouns as reaction-words				1.81	secs.
abstract	"	"	"	1.98	"
adjectives	"	"	"	1.65	"
verbs	"	"	"	1.66	"

[illegible] It [illegible] corresponding [illegible] abstract terms produce the longest [illegible] there are many [illegible] at least [illegible] investigations [illegible] which is probably [illegible] phrase [illegible].

[illegible] lead us too far afield.

[28] "The Associations of Normal Subjects," supra, par. 445.

[illegible] rect are these:

Probable Mean-times for Concrete Nouns etc. as Reaction words[illegible]

	[illegible]		[illegible]	
	Women	Men	Women	Men
Concrete nouns	2.2	1.85	[illegible]	[illegible]
Abstract nouns	2.7	2.0	[illegible]	[illegible]
Adjectives	2.0	1.7	[illegible]	[illegible]
Verbs	1.9	1.7	1.8	[illegible]

[illegible] [illegible] relationships (causing delay) occur.

[illegible] on the Reaction time

[illegible] As [illegible] duced the following average figures.

	[illegible]		[illegible]	
	[illegible]	M[illegible]	[illegible]	[illegible]
Internal associations	2.8	2.0	[illegible]	[illegible]
External "	1.9	1.7	1.8	
Sound reactions	2.6	2.4		[illegible]

[illegible] 4.0 seconds

[illegible] following chapter will show.

G. Prolonged Reaction-time

[illegible]

[illegible] times.

[illegible] words.

[illegible] words.

[illegible] tions.

[illegible]

[illegible]

---

[27] "Die Ideenassoziation des Kindes."

[28] "Zur quantitativen Untersuchung der Assoziationen."

[illegible] have an especially delaying effect.

[illegible] type the complex is

[illegible]

[illegible] now like to refer

[illegible] possible

[illegible] second.

1.	head	scarf	1.0
2.	green	grass	0.8
3.	water	fall	1.0
	to pierce	to cut	0.8
5.	angel	heart	0.8

[illegible]

[illegible]

Ibid., p. 35.

"The Associations of Normal Subjects," supra.

[illegible] ... Müller [illegible] Pilzecker [illegible] not try to decide.

[illegible] tions failed to occur:

6.	long	short	0.8
7.	ship	sailing	0.8
8.	to plough	field	1.0
9.	wool	silk	1.0
10.	friendly	charming	1.2
11.	table	chair	1.2
12.	to carry	to lift	1.2
13.	state	to make	1.2
[illegible]	[illegible]	wild-bad	[illegible]

Ibid., par. 449.

[illegible] Müller [illegible] Pilzecker, [illegible] Lehre vom Gedächtnis" (1900).

Cf. R. 43 (blood) infra.

[illegible] it on one of my association forms.)

15. to dance	to leap	0.8
16. lake	sea	0.8
17. ill	well	1.2
18. proud	fiery	1.2

[illegible]

[illegible] to cook	to learn	0.8
[illegible] ink	black	1.0
[illegible] evil	good	0.8
22. needle	thread	1.0
23. to swim	to learn	0.8

[illegible] learned to swim at all well.

24. journey	Berlin	1.2

[illegible] pregnant.

[illegible]	heaven	0.8
[illegible]	to eat	1.2
27. to threaten	fist	1.2
28. lamp	green	1.4

[illegible] be observed in certain hysterics.

[illegible] (lamp-shade).

29. rich	poor	1.0
30. tree	green	0.8

Here [illegible] can very easily be repeated.[34]

[illegible]

31.	to sing	can	[illegible]

[illegible]

32.	sympathy	to have	1.0
33.	yellow	gold	1.0
34.	mountain	to climb	1.0
35.	to play	children	1.0
36.	salt	salty	1.4

[illegible]

37.	new	old	[illegible]
38.	custom	habit	[illegible]
39.	to ride	to travel	[illegible]
40.	wall	maps	[illegible]
41.	stupid	clever	[illegible]
42.	exercise-book	book	1.0
43.	to despise	*mépriser*	1.8

Once again a longer reaction-time and, also, a striking rendering of

---

[34] Cf. Müller and Pilzecker, op. cit.

[35] "The Associations of Normal Subjects," supra, par. [illegible]

[illegible] Hence the reactions being in French

[illegible] time of the reaction.

44.	tooth	time[10]	4.6
45.	correct	false	3.0
46.	pardon	faithful	3.4

[illegible] to me.

[illegible] husband's estrangement

[illegible]	[illegible]	to be scented	1.0
[illegible]	[illegible]	to read	1.0
[illegible]	unjust	just	0.8
[illegible]	frog	leg	1.2
[illegible]	to part	to avoid	0.8
[illegible]	hunger	thirst	0.8
[illegible]	white	black	1.0
[illegible]	ring	finger	1.0
[illegible]	to watch	to listen	1.0
[illegible]	pine	forest	[illegible]
57	dull	fine (weather)	
58.	plum	pear	[illegible]
[illegible]	to mend	[illegible]	[illegible]
[illegible]	law	to keep	[illegible]
61.	dear	man	1.2
62.	glass	clear	1.0

---

[10] [illegible] German [illegible] der Zahn der Zeit, "the tooth (i.e., ravages) of time."]

[illegible] previous reaction

[illegible]	to argue	to quarrel	[illegible]	
	goat	bleats	[illegible]	
	big	[illegible]	0.8	
[illegible]	potato	field	[illegible]	
[illegible]	to paint	painter	1.0	
[illegible]	part	piece	1.0	
[illegible]	old	young	[illegible]	
	flower	red	0.6	*Blume rot*

[illegible]

71	to beat	to stab	1.0
72	box	bed	[illegible]
[illegible]	[illegible]	[illegible]	
74	family	father	[illegible]

[illegible]

[illegible]

75.	to wash	washerwoman	1.0
76.	cow	stupid	0.8
77.	strange	-ness	1.0
78.	fortune	fortunate	0.6
79.	to tell	mother	1.4
80.	propriety *(Anstand)*	Ge- usage	1.2 *(Ge-)* 2.0 *(Sitte)*

[illegible] phenomena in both healthy and sick subjects.

81.	narrow	-minded	0.6
82.	brother	sister	0.8
83.	to damage	to avoid	1.2 *(schaden meiden)*

[illegible] ation is rendered in translation as *mild / bed; child / bed*.]

[illegible] is very [illegible] [illegible]. Has [illegible] person is [illegible] constellated by the complex [illegible] pleas[illegible] and [illegible] associated as [illegible]. Regressive [illegible] of [illegible] frequently occur in hysterics. The subject is quite unable to explain this.

84. stork	to bring	8.4

Th[illegible] clearly [illegible] the [illegible].

85. [illegible]	cat	1.0
86. [illegible]	to [illegible]ave	1.0
87. kiss	[illegible]	1.2

[illegible] the ego in R 8[illegible] would perhaps also [illegible] by the critical reaction to 86.

88. conflagration	fire	1.2
89. dirty	yellow	1.0
90. door	closed	0.8
91. to choose	choice	1.2
92. hay	grass	1.0
93. still	quiet	0.8
94. scorn	derision	1.0
95. to sleep	to stay awake	1.0
96. month	May	1.0
97. coloured	blue	1.2
98. dog	cat	1.0
99. to talk	speak	1.0
100. coal	dust	1.0
101. moderate	drinking	1.0
102. lid	eye	1.0
103. to suppose	to believe	1.2
104. ache	heart	0.8 (*Schmerz Herz*

This rhyme, which has a relatively short reaction time, is stated by the subject to be a mere catch-phrase

105. lazy	sluggish	1.0
106. moon	calf	1.0
107. to laugh	to cry	[illegible]
108. coffee	to drink	1.0
109. wide	narrow	1.0
[illegible] hair	thick	1.0
[illegible] to carry	to lift	1.0
112. plate	round	0.8

R. [illegible] is somewhat [illegible] it seems as if the constellation [illegible] part [illegible] powerful [illegible] Does it perhaps echo through to R 112?

The next [illegible] long reaction-times are [illegible] render [illegible] not [illegible] never more than [illegible] seconds. We shall therefore pass them over.

143.	blood	red	0.6
144.	to let (a house)	to let	1.8
		to avoid	3.0
145.	caution	leniency	1.0 (*Vorsicht* *Nachsicht*)

R. 145 is very [illegible] as we know [illegible] occurred [illegible] It is followed by a longer time and a [illegible] the whole series. R. [illegible] general [illegible] and sound.

[illegible] are of no importance. [illegible] associations.

[illegible]	distinguished	noble	1.8
169.	tube	sly	0.8 (*Schlauch* *schlau*)

The [illegible] at the time of the second [illegible] for the persistence [illegible] The [illegible] been [illegible] and occasionally feels this loss.

172.	to turn	round	3.4

The [illegible] does not [illegible] supposed emotional influence [illegible] explanation to offer.

175.	trust	me	1.4

Here [illegible] associated with her complex.

190.	to bring	something	2.2
191.	inn	The Stork	1.0

What [illegible] represents is clear from the subsequent [illegible]

195.	mirror	shining	1.4
198.	to punish	prison	1.4

Neither of these long reaction-times can be satisfactorily explained. The subject told us that on [illegible] first the image g[illegible] [illegible] [illegible] why *glatt* should have been suppressed.

A[illegible] the fact that she had been aware of a slight hesitation [illegible] [illegible] we cannot think of a plausible explanation [illegible] previous experience [illegible] some kind of feeling-toned complex [illegible] As a later example will show [illegible] does not need to be [illegible] it can be an old reminiscence that has apparently vanished a long time ago.

199.	bone	bed	1.0 (*Knochen, Bet*[illegible])

Compare the remarks on [illegible] The interesting point [illegible] the subject [illegible] not the faintest suspicion [illegible] the significance of the association.

The following associations should be mentioned here:

164	to love	faithful	1.0
167	bill (of exchange)	false	1.0
181	duty	faithful	0.8
187	snake	deceitful	0.8

[illegible] also as reactions [illegible] with *faith*[illegible]. These words [illegible] the subject [illegible] tend to recur with gradually decreasing reaction-times. It is also interesting [illegible] apparently words representing a complex tend to [illegible] where the meaning no longer [illegible] investigation.[88]

601 The analysis of the reactions of this subject has shown that times exceeding [illegible] seconds, with the exception of a few reactions quoted above, can be attributed to the influence of a feeling-toned complex, for two reasons:

1. The association through which the complex is constellated has a prolonged reaction-time.

2. The association immediately following that [illegible] the complex has been constellated has an extended reaction-time owing to the reverberation of the feeling-tone.

---

[87] In a case of this kind, more exact testing would be desirable.

[88] "The Association of Normal Subjects," supra, pars. [illegible]

[illegible] In general [illegible] [illegible] the subsequent identification of the complex.

[illegible] the process of association.

[illegible] appears [illegible]

[illegible]

[illegible]

[illegible] take *partem pro toto*.

[illegible] Cf. Freud, *The Psychopathology of Everyday Life* (orig. 1904).

unexpected by the ego-complex. [illegible] associations [illegible] complexes [illegible] Besides [illegible] complexes. [illegible] former [illegible] [illegible] seconds [illegible] per cent [illegible] seconds [illegible] the influence [illegible] complex [illegible] per cent of reactions [illegible] seconds [illegible] per cent [illegible] complex [illegible] per cent were in excess [illegible] seconds [illegible] influence of a known complex.

[illegible] [illegible] which she follows with interest.

[illegible]

1.	head	part	1.4
2.	green	blue	1.0
3.	water	to clean	[illegible]

The [illegible] complex [illegible] water had been understood in the sense of *urine*.

4.	to pierce	to strike	1.0
5.	angel	pure	1.0

[illegible] of the associations [illegible] related to other complexes.

6. long	large	1.8
7. ship	large	1.6

[illegible] tions to the word long.

8. to plough	to turn up the soil	1.6
9. wool	sheep	1.2
10. friendly	busy	2.2 (tätig, tötg[11]
[illegible]	[illegible]	[illegible]

[illegible] now 86.

15. stem	long	1.2
16. to dance	to steam	1.8 (tanzen dampfen)
17. lake	large	1.2

[illegible]

18. ill	poor	1.2
19. pride	bolt	1.6 (Stolz Bolz)

[illegible]

---

[11] [Tötg not actually a word; suggests töten (to kill).]

[illegible] frequent [illegible] only realized after the reaction was given.

20.	to cook	well	1.0
21.	ink	to come	1.4 (*Tante kommen*,

The association [illegible] phrase [illegible] unpleasant [illegible] There is also an [illegible] back several years [illegible] associations of unpleasure.

24.	to swim	well	1.2
	journey	gay	1.6

[illegible] of travelling [illegible] predominantly pleasant associations.

26.	blue	lake	[illegible]
27.	bread	daily	[illegible]

[illegible] like that of *poor* and [illegible] clear connexion [illegible]

28.	to threaten	evil	1.4

A very unpleasant [illegible] with the memory of [illegible] complex already mentioned and a feeling [illegible]

29.	lamp	shade	1.2
30.	rich	poor	1.4

Poor again has the suggestion of unpleasure and again recalls the money business.

31.	tree	trunk	1.2
32.	to sing	to spring	1.8

To [illegible] the sexual [illegible] for the reasons given above [illegible] to be [illegible] and the long reaction-time.

33.	sympathy	the poor	1.4
34.	[illegible]	[illegible]	1.2 [illegible]

The four [illegible] money-complex. [illegible] ego-complex [illegible] the revealing *much*.

36.	to play	ball	2.2
37.	salt	dripping	1.4 (*Salz–Schmalz*)

[illegible] Here [illegible] complex [illegible] made [illegible] the feeling [illegible]

38.	new	old	1.2 (*neu–alt*)

[illegible] complex [illegible] more active.

39.	morality	immorality	1.8

A [illegible] hesitation [illegible] vague suggestation of guilt [illegible] of *immorality*. The erotic complex once again.

40.	to ride	to drive	1.4
41.	wall	place	1.8
42.	stupid	clumsy	2.0

The subject can offer no explanation [illegible] R [illegible] somewhat [illegible] money-complex [illegible] complex [illegible] complex [illegible] R [illegible] makes the erotic complex vibrate slightly.

43.	exercise-book	book	3.4
44.	to despise	to respect	1.2
45.	[illegible]	[illegible]	1.[illegible] (*John Gri*[illegible]

T[illegible] seems to [illegible] very close to the money-complex [illegible] *Zahn* [illegible] associated as [illegible] Here again we have the money-complex forestalling the ego-complex.

56. correct	incorrect	1.2
57. people	poor	1.8

Again [illegible] delayed reaction with the money-complex.

60. to hit	marksman	1.2
61. law	not set	4.8

[illegible] conform to the laws of morality.

The following reaction

62. dear	good	2.0

is also [illegible] the influence [illegible] these memories of past immorality.

69. part	part of the body	1.8

Here [illegible] sexual consideration as in R 6 and [illegible]

76. to wash	filth[48]	1.5

[illegible] For the coarse mode of expression, see 90.

78. strange	newcomer	2.0

[illegible] without any conscious [illegible] the money-complex. [illegible] complex [illegible] opportunity.

79. fortune	misfortune	1.4

[illegible] the preceding reaction.

80. to tell	mother	1.2
81. propriety	not proper	5.6
82. narrow	narrow-minded	1.8

---

[48] [*Dreck*, which also means excrement.]

[illegible] screen-memories (Freud).

86. false evil 2.4

[illegible] plex in the subject's present emotional life.

89. fire sea 1.8 (*Brand Meer*)

[illegible]

90. dirty filthy (*dreckig*) 1.4

Cf. *The Interpretation of Dreams* (orig. 1900).

The coarse wording of this reaction is determined by the moral feeling of repugnance that is tied up with the erotic complex

91 door to show 1.4

This reaction too, [illegible] the same feeling

92 to elect Mure (mayor) 2.2

[illegible]

[illegible] Riklin, "Zur Psychologie [illegible] Symptoms" (1904).

[illegible] A similar word association [illegible], is reported in "The Associations of Normal Subjects," supra, par. [illegible]

[illegible] love affair by a succession of melody automatisms.

[illegible]

95. mockery	scorn	1.4
99. dog	dead	1.6

[illegible]

103. moderate	immoderate	1.6

[illegible] explanation [illegible] connection with R.89 *Brand*).

104. to suppose	to believe	2.0

[illegible] complex.

105. pain	scorn	1.8
[illegible]	[illegible]	[illegible] *schwatzen*)

[illegible] *schwatzen* (to gossip about someone).

180. to create	to operate	2.0

H[illegible] we [illegible] the complex [illegible] of [illegible] the lengthened reaction-time

127.	resin	tree	2.0 (*Harz, Baum*)

[illegible] pearance of the money-complex.

Also the following reaction:

128.	to wake	to awaken	1.6

[illegible]

130.	bad	evil	0.8
131.	briefcase	wood	0.8 (*Mappe, Holz*)

[illegible] *Mappe* [illegible] money [illegible] complex.

148.	forget	fullness	2.0
149.	drum	beat	1.2
150.	free	dom	1.2
151.	wagon	barricade	4.0 (*Wagen* [illegible])

[illegible] several years ago [illegible] The [illegible] He [illegible] a [illegible] break [illegible] wagon [illegible] *Wagenburg* [illegible] recog[illegible] [illegible] *Wagenburg*. All these [illegible] only established later.

153.	impudence	confounded	2.0
154.	quick	-ness	0.6

R[illegible] belongs [illegible] the same [illegible] above [illegible] The [illegible] of these was [illegible] taken only on [illegible]

[illegible] as 154

157.	change	of time	1.8

[illegible] long reaction time.

84.	leaf	to fly	2.6 (*Laub—fliegen*)

[illegible] is therefore quickly suppressed.

100.	to bring	money	1.2
101.	vocabulary*	to fetch	2.2

[illegible] of the money complex stimulated by *to bring*.

195.	mirror	soul	1.8
196.	foul	filth	1.4
197.	understanding	good	2.6
198.	to punish	for evil	2.2
200.	beautiful	good	2.6

R. 195 for some unknown reason is somewhat prolonged. Perhaps "mirror of the soul" already presaged the ethical tone of the follow- [illegible] Each time it represents the erotic complex.

R. 198 is clearly influenced by the complex.

[illegible]

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* [illegible] a mistake [illegible] vocabulary.]

Subject No. 1: the sexual complex (pregnancy, with its various branches: fear, jealousy, etc.) is preponderant. With the other subject, No. 2, the sexual complexes play a less important part. From personal respect for the subject I cannot give all the reactions. It is easy enough to demonstrate, however:

1. Sexual complexes.

An erotic complex belonging to the past, but now over and known to him, is expressed almost exclusively in the [illegible] feeling-constellations (sex, sin, remorse).

An actual erotic complex, expressed merely by [illegible] feeling-constellations (not reported).

At least three sexually charged ideas independent of each other.

2. The money-complex.

3. Ambition, with at least four secondary memory-complexes.

4. Personal sensitivity, with at least three secondary memory-complexes.

5. Friendship.

6. Two feeling-toned reminiscences, independent of each other (dead dog, deafness).

6[illegible] Thus we have about eight complexes, independent of each other, that are touched upon in the series of experiments. Subject No. 2 is a few years older than No. 1. In the latter case, as was mentioned, 8 per cent of the associations were to be attributed to the sexual complex, whereas only 4 per cent came under the influence of other emotions. On the other hand, in subject No. 2, [illegible] per cent of the associations can be related to the different complexes. This great number of constellations does not in any way indicate that the analysis was taken further, or that subject No. 2 gave better information than No. 1, but it is also to be recognized objectively that subject No. 2, at least at the time of the experiment, was more emotional than No. 1. We recognize this from the numerous disturbed reactions and the striking associations and repressions.[illegible]

Cf. also the [illegible] in our earlier investigation, "The Associations of Normal Subjects," supra, par. 4[illegible]7.

6[illegible] Of the [illegible] per cent of the associations mentioned, only [illegible] per cent can be attributed directly to the sexual complex, namely the autoerotic complex; [illegible] per cent to the money complex; [illegible] per cent to ambition; [illegible] per cent to personal shyness; [illegible] per cent to the broken friendship; [illegible] to the erotic complex of the past, which is [illegible] betrayed by feelings of revulsion and remorse; [illegible] per cent can be related, and [illegible] per cent are connected to about six smaller, more or less separate emotional complexes. Thus with the male subject the sexual complex as such is very much in the background against the many other influences. [10: 48]

6[illegible] This case shows us even more [illegible] preceding one [illegible] how [illegible] personality is [illegible] the associations. The experiment provides data about a whole series of highly important psychological contents; it gives us a [illegible] picture of the actual personality from a psychological point of view.

6[illegible] *Subject No.* [illegible], young [illegible].* I [illegible] myself [illegible] associations and am repeating [illegible] to show again what [illegible] emerge [illegible] the preceding cases. The probable mean time [illegible] is [illegible] seconds.

1. head	neck	1.2
2. green	mouse	0.8
3. water	green	1.0

What strikes one in this series is the second reaction [illegible] green. *Neck* is a reverberation from the [illegible] before the experiment, when the subject [illegible] of Marie Antoinette. The subject [illegible] comes [illegible] the feeling [illegible] and supposes [illegible] have been *neck* [illegible].

4. to pierce	to fence	1.2
5. angel	house	1.6

Here we have [illegible] a long reaction time; the reaction [illegible] and now the memory comes back. [illegible] angel [illegible] song [illegible] hand.

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* This case is also discussed in "The Psychological Diagnosis of Evidence," infra.

[illegible] [illegible]

A [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] green and the tip of the tongue *mouse*

23. state	church	1.8

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] represents the [illegible] [illegible] complex [illegible] [illegible] [illegible] [illegible] [illegible]

26. to dance	not	1.8

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] feeling is [illegible]

28. all	not	1.6

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] to [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

30. angry	friendly	1.8
38. needle	nail	1.2 (*Nadel Nagel*)

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] towards a [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the perseverating [illegible] [illegible] feeling-tone

40. rich	father	2.8
41. tree	branches	1.6

[illegible] too.

42. to sing	beautiful	2.4
43. pity	absolutely not	1.8

by which he [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] pity [illegible] [illegible] every one forges his own fate

44. detest	rascals	3.0 (*Kerle*,
47. people	religion	1.8
48. to stink	abominable	1.0
50. unfair	atrocious	1.8

[illegible] Jews. The [illegible] *People* [illegible] complex [illegible]

5[illegible]. white	snow	1.8	

A feeling of "[illegible] finished" or "death", refers to the love-complex.

61. law	absolute	1.4	

[illegible] "it is the law, it must be so."

6[illegible]. dear	beautiful	1.2	
66. tall	fine	1.2	

[illegible]

74. wild	animal	1.8	

[illegible] complex.

75. family	house	1.0	

[illegible]

79. luck	game	1.8	

Clearly refers to the love-complex.

80. to tell	to talk	1.6	*erzählen talk*

[illegible] the English form.

89. brother	sister	2.0	*Bruder sister*)

[illegible] English form [illegible] *Bruder* [illegible] had left some time earlier for America. This analogy has condensed itself into *sister*.

88. to kiss	absolutely	1.6

Absolutely is the key word to the love-complex.

91. door	mouse	1.6

The sound [illegible] of R. 2 reappears probably in the mask *mouse*, which stands for the complex.

92. choose	Kaposi[11]	

Another word came up first as the reaction but it was immediately suppressed and altered into *Kaposi*. *Caprice* was [illegible] the words in question. *Kaposi* is only an example of similarity in sound which is constellated by a conversation of a few days earlier in which Kaposi was mentioned.

105. pain	kissing	1.0
106. lazy	sow	1.4

The coarse expression of the last reaction is caused by the feeling of anger perseverating from R. 105.

115. intention	kissing	1.8 (*Absicht kissen*)

Absicht is immediately assimilated as *absolut*, which refers to the complex. It is then reproduced as if this were the meaning of the stimulus-word.

125. purpose	absolutely none	1.8
126. hot	yes	2.2
134. worthy	daft	2.0
135. danger	glad	1.4
136. high	no, low	2.8
140. to mix	blood	3.0
143. blood	to mix	1.4

These reactions are all sometimes more, sometimes less clearly constellated by the love-complex, and in this case apparently the constellating factor was not a clear image, but only a certain not very distinct mood.

144. to let	family	1.6

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[11] [Famous Viennese dermatologist, 1837–1902.]

For [illegible] was [illegible] and [illegible] somewhat striking [illegible] associat[illegible] is again [illegible] taken [illegible] to mask the word *honor*, which represents the complex:

145. caution	intention	2.0 (*Vorsicht*—*Absicht*)

Here clearly [illegible] *Absicht* [illegible] through a sound association [illegible] possibly associa[illegible] tributed.

160. to wish	absolutely not	1.8

617 It is [illegible] add any more examples [illegible] principle [illegible] nothing new [illegible] that we have already established with the previous cases.

618 The [illegible] complex is clearly in the foreground [illegible] has [illegible]. At least 12 per cent of the associations can be referred to it with certainty. The [illegible] complex can be demonstrated in [illegible] per cent of the associations. [illegible] per cent [illegible] associations [illegible] complex [illegible] [illegible] centres can be demonstrated in [illegible] per cent of the associations. The general probable mean [illegible] is [illegible] seconds; [illegible] per cent of the reaction-times exceed [illegible] mean [illegible] per cent amount to [illegible] seconds. Of these [illegible] per cent are certainly [illegible] complex, whereas [illegible] per cent [illegible] is doubtful or not demonstrable; [illegible] per cent of the associations took [illegible] seconds; [illegible] per cent of these can with certainty be traced back to the influence of a complex, whereas this influence is uncertain in [illegible] per cent; [illegible] per cent of the associations took over 2.0 seconds. All these can be attributed to the influence of a complex.

619 It is unnecessary to add more examples, for [illegible] constantly have to repeat [illegible]. As far as our experience goes, the complex phenomena are the same with all subjects. Only the type of complex naturally varies with sex and [illegible] level.[illegible]

[illegible] The [illegible] of *Affekt* [illegible] which I use [illegible] analyses [illegible] explanation [illegible] reading of [illegible] Frequently a function of consciousness [illegible]

The [illegible] feeling-tone deserves [illegible]

To summarize:

From the figures given [illegible] are [illegible] intervention of a strong feeling-tone.

2. Strong feeling-tones [illegible] personally important complexes.

The [illegible]

[illegible]

[illegible]

(*a*) The reaction influenced by a perseverating feeling-tone has a prolonged reaction-time.

[illegible] group of images of the preceding complex.

[illegible] reactions.

[illegible]

[illegible] stimulus-word.

[illegible] part.[35]

II. [illegible] a Greater Number of Subjects

A. [illegible] AND PROLONGED REACTION-TIME

6[illegible] It would [illegible] processes [illegible] prolonged

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[35] I must observe that the analysis of the associations of an uneducated subject would take a very different and more complicated form. As explained by R[illegible] [illegible]

[illegible] my material. Of these nine were uneducated and two educated.

[illegible] [illegible] subjects reacted with prolonged times to the following stimulus-words:

needle
hair[33]
salt
[tooth: 8 subjects][34]
window
tern
hope
strange
false
to court
to disgust
uproar
resin
pyramid
to hit
to threaten
[despise: 7 subjects][34]
inn
to remember
ripe

[illegible] It is not surprising [illegible] words such as [illegible] [illegible] lengthening [illegible] the reaction-time [illegible] prolonged [illegible] at [illegible] association [illegible] hair [illegible] hope etc. [illegible] these [illegible] that [illegible] frequency [illegible] would arouse long reaction-times [illegible] by means of the above [illegible] already [illegible] for example, hope, false [illegible] threaten [illegible] emotional [illegible] striking [illegible] persevering feeling [illegible] Hair and [illegible] long reaction-times particularly [illegible] whereas [illegible] despise [illegible] Needle [illegible] however [illegible] On the [illegible] Nabel [illegible]

---

[33] [illegible] each [illegible]

[34] The stimulus-word in square brackets is given because it seems more likely to arouse a complex than window or inn.

[illegible] exactly as in addition [illegible] because the word given [illegible]. Words [illegible] at all like Nase [illegible] German. For [illegible] would [illegible] Swiss [illegible] when Nase [illegible] stress [illegible] nected [illegible] This [illegible] is borne out by the small [illegible] the word [illegible] seve[illegible] eleven [illegible] prolonged [illegible] in German is pro[illegible] the dialect word *Bauch*, however, means *Bau*[illegible] unpleasant stimulus [illegible] experiments [illegible] frequently [illegible] that *Bauch* [illegible] word as *Bauch* [illegible] the corresponding [illegible]

605 [illegible] reaction-times [illegible] to the following stimulus-words:

dream	damage	impetus
paper	to spare	premonition
[illegible]	[illegible]	[illegible]
frog	[illegible]	[illegible]
nurse (male)	(to surmise 8 subjects	to caress
[illegible]	[illegible]	[illegible]

Usage [illegible] preponderance [illegible] which the [illegible] predominately [illegible] feeling-value.

606 Since *paper* is a very [illegible] its [illegible] nurse [illegible] because [illegible] with [illegible] are all more or female nurses [illegible] The meaning [illegible] the word [illegible] German, because [illegible] South German [illegible] the nurse [illegible] fact, in the meantime [illegible] suppressed the association [illegible] What [illegible] the association [illegible] It is striking [illegible] Since the experiment [illegible] giving these long times were [illegible] had a long reaction-time [illegible] the emotional complex associated with a newborn [illegible]

Possibly [illegible] feelings [illegible] less [illegible] a small, naked, wriggling baby can arouse feelings in a sexual [illegible] would be [illegible] could [illegible] be present in every woman, even if only unconsciously.

667 The feeling-value of the other stimulus-words is clear and requires no further explanation.

668 (b) Seven out of eleven subjects reacted to the following stimulus-words with prolonged reaction-times:

freedom
unjust
world
loyalty
consciousness

to disgust
to despise
to pay attention
to kiss

Only consciousness [illegible] could be rated as [illegible]. The stimulus-words *freedom* [illegible] *to pay attention* [illegible] presumably produce long reaction-times [illegible] the [illegible] we understand [illegible] may have prolonged times so frequently because it is placed between two words that arouse emotions.

669 (c) Eight out of the eleven subjects had long reaction-times to the following stimulus-words:

heart
violence
wonder

to surmise
(to kiss, 7 subjects)
(natural, 9 ")

It is [illegible] the relatively [illegible] has [illegible] important [illegible] to arouse complexes. [illegible] religious complexes associated with emotions. [illegible] the immediately preceding [illegible] *to kiss* [illegible] very embarrassing [illegible] both sexes [illegible] prolonged reaction-times. This is perhaps [illegible] the subjects are closely connected with the mental hospital.

670 From this [illegible] we [illegible] see that the [illegible] stimulus-word can [illegible] the reaction-time. In the vast majority of cases [illegible] stimulus-words that produce long reaction-times are characterized by a high feeling-value. Thus the principal cause of prolonged reaction-times [illegible] subjective [illegible] examination shows the principal cause [illegible]

prolonged [illegible] stimulus word.

[illegible] following summary:

[illegible] or more out of 14 subjects.

[illegible] jects. Of these 76% referred to affective images.

[illegible] jects. Of these 76% referred to affective images.

[illegible] Of these 89% referred to affective images.

[illegible]

[illegible] sexual affective value.

B. INCIDENCE OF PROLONGED REACTION-TIMES WITH INDIVIDUAL SUBJECTS

It [illegible] processes [illegible] of the greatest significance [illegible] experience [illegible] different [illegible] six [illegible] several [illegible] six [illegible] 4,000 individual data.

[illegible] reaction-times that exceeded [illegible] were [illegible] longed. [illegible]

In computing the mean times we are thrown back on the arithmetical mean in which the prolonged times are taken into account. This is true when individually arranged, for which reason no characteristic figures can be obtained in this way. I therefore decided to select the individual probable mean as the upper limit: first, because the abnormally long times are not taken into account, for this reason the probable mean is as a rule lower than the arithmetical mean; and secondly, because, according to the analysis of subjects, of all those times exceeding the probable mean by only 0.2 seconds, almost a third are clearly influenced by feeling-toned complexes, whereas all the very long times depend entirely on the effect of complexes. In this way we encounter almost all the prolonged reaction times produced by affects. As is clear from several examples, there is a certain proportion between the intensity of the affect and the length of the reaction time. Hence one can reckon that strong and intensive affects produce very long reaction times. By means of the arithmetical mean the prolonged reaction times are taken proportionately into account in calculating averages. For the four groups mentioned I am giving the figures for the probable and arithmetical means, the percentages of prolonged reaction times, and the difference between the two means.

		Probable Mean	Arithmetical Mean	Difference	Prolonged Reaction times
Uneducated	Women	2.2	2.9	0.7	49.2
	Men	1.8	2.4	0.6	[illegible]
Educated	Women	1.7	2.2	0.5	48.4
	Men	1.3	1.7	0.4	41.8

615 The four columns of this table show approximately the same thing in different forms, namely that the uneducated women, as well as having the highest probable mean, also have the greatest number of prolonged reaction times. The differences between probable and arithmetical mean times are most instructive: the group of educated men has a smaller difference than the other three groups. This figure states that the prolonged reaction times of educated men are on average shorter than those of the other groups. In consequence the emotional inhibitions of all the other subjects [illegible] is the

[illegible] frequently [illegible] From this I [illegible] the experiment [illegible] This seems [illegible] emotional inhibitions in the other subjects.

[illegible] based on [illegible] hypotheses [illegible] based on the differences.

General Recapitulation

A. In [illegible] time came out at 1.8 seconds.

B. The times [illegible] average [illegible]

C. Similarly [illegible] seconds [illegible] average [illegible] seconds.

D. The quality of the stimulus-word exerts a certain influence [illegible] The average [illegible] seconds [illegible] abstract [illegible] seconds [illegible] concrete [illegible] longest times.

E. The quality [illegible] reaction also seems [illegible] certain [illegible] longest times [illegible] 1.98 seconds [illegible] shortest [illegible] seconds [illegible] concrete [illegible] again are [illegible] longest time occurs [illegible] concrete [illegible]

[illegible] the associations [illegible] show [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] by [illegible] reactions.

[illegible] [illegible] [illegible] [illegible] [illegible] associated [illegible] [illegible] [illegible] The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

11. Prolonged [illegible] [illegible] [illegible] are termed [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

12. Very frequently [illegible] [illegible] [illegible] [illegible] disturbed (perseveration).

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[illegible] 1891).

[illegible] Die [illegible]

EXPERIMENTAL OBSERVATIONS ON THE FACULTY OF MEMORY[1]

639 We have often observed in [illegible] association experiments with hysterical patients that the patient was [illegible] to recall [illegible] reactions belonging to stimulus words that were directly related to the complex, and these [illegible] frequently [illegible]. We [illegible] to investigate [illegible] the power [illegible] forgotten [illegible]. We [illegible] recognized [illegible] striking phenomenon [illegible] was identical with the type of forgetting described by Freud [illegible] remember [illegible] unpleasant impressions. The phenomenon [illegible] is [illegible] case of a general tendency to repress [illegible] unpleasant image. (Cf. Freud's papers.[2])

640 It is to the credit of Freud and partly also of Breuer, as is probably well known, that they have amply demonstrated this fact of forgetting connected with repression in hysterical patients. The [illegible] by everyone who has [illegible] tested Freud's [illegible]. In more recent works Freud has demonstrated that the same mechanisms of repression are at work in the normal dream and in trivial incidents of everyday life (forgetting, slips of speaking, reading, etc.). In our experimental investigations we have succeeded in demonstrating the repressed complex in such associations as are produced by [illegible] stimulus words. The [illegible] repressed complex [illegible] immense practical importance, e.g., in hysteria. Every hysterical patient has a

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[1] [illegible] Zentralblatt für Nervenheilkunde und Psychiatrie [illegible] XXVIII [illegible] XVI [illegible] whose [illegible] sentence, and it is here first republished.

[2] Freud, [illegible] Psychischen Mechanismus [illegible] (1898); [illegible] Deckerinnerungen [illegible] (1899) [illegible] Screen Memories [illegible] The Psychopathology of Everyday Life (orig. 1904).

[3] Freud, *The Interpretation of Dreams* (1900).

repressed complex of [illegible] significance. It is therefore essential to treat [illegible]. That the complexes [illegible] [illegible]less [illegible] [illegible] in regard to important psychotherapeutic [illegible]. As Freud has shown, however, the [illegible] repressing the complex are so strong that the images concerned are very often split off from consciousness. It was to overcome this barrier that Freud invented his ingenious method of free association. This method is, however, extremely time-consuming and its use presupposes certain qualities [illegible] the patient and the doctor. The same inhibitions are [illegible] in [illegible] method of association. A [illegible] of the [illegible] that have brought [illegible] shows quite clearly [illegible] category the repressed complex may [illegible] and [illegible] [illegible] complementary [illegible]. To get a clearer idea of the specific complex one can then intersperse additional and pertinent stimulus-words. The [illegible] the method, which is [illegible] easy [illegible] use, lies in disentangling the reactions connected with a complex from the [illegible]. I have therefore compiled a series of [illegible] complex [illegible]. In principle the complex characteristics are the same for normal and pathological associations; [illegible] the complex [illegible] suggestion [illegible] applying our experiments the [illegible] psychology [illegible] Gross and [illegible] our experiments. The complex [illegible] is the [illegible] crime [illegible] stimulus-words are the designations of things associated with the mental [illegible] of the crime.

[illegible] The observations mentioned in our first paragraph became the point of departure for a new means of [illegible] associations that [illegible] complexes ([illegible] method), as I shall [illegible] described as follows. After completing the association test, usually one hundred words, we try to find out whether the subject remembers how he reacted to the [illegible] words. We simply repeat the experiment, always allowing the patient enough time to recall

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[1] See [illegible] "[illegible] Association Experiment," supra.

[2] [illegible] Gross, [illegible] 1904 [illegible] Stern, [illegible] Hans Gross, "Zur Frage des Wahrnemungsproblems" (1905).

[illegible] reactions. [illegible] reproduction [illegible] certain [illegible] characteristics [illegible] I should [illegible] like [illegible] these experiments [illegible] idea [illegible] as to [illegible] whether [illegible] were accidental or whether a system [illegible] them could be revealed. I [illegible] people [illegible] and [illegible] at least [illegible] always [illegible] be same determining [illegible] organic disturbances [illegible] are of course excluded. As this article is [illegible] this phenomenon, I have selected as examples two [illegible] cases [illegible] which the [illegible] is quite pronounced.

CASE NO. I

642 A [illegible]-year-old [illegible] who was undergoing psychoanalytical treatment because of [illegible] anxiety-states and compulsive [illegible]. Two years previously [illegible] become engaged [illegible] engagement [illegible] broke up [illegible] the young woman was of [illegible] and [illegible] the [illegible] of the engagement when the [illegible] picture [illegible] another [illegible] the [illegible] not [illegible] was then that the first [illegible] symptoms [illegible]. [illegible] year [illegible] patient [illegible] engaged [illegible] was however [illegible] by [illegible] know. The [illegible] character [illegible] these circumstances [illegible] seek medical [illegible] ages [illegible] 8 and 25, as [illegible] strength [illegible] greatly [illegible].

Association and Reproduction Test

643 The results of the two tests are set side by side. Those associations that were [illegible] reproduced [illegible] wrongly reproduced are shown in italic type.[a]

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[a] [illegible] list were not numbered. They have now been numbered to facilitate comparison with the list for Case No. II. The list for Case No. I omits, perhaps inadvertently, 51, *frog*.—

	Stimulus-word	Reaction	Reaction-time (secs.)	Reproduction	Remarks
1	*head*	*empty*	3.2	to see	Complex underlying the illness.
2	*green*	*lawn*	2.2	colour, tree	Probably perseverating feeling-tone
3	*water*	*to drown*	2.2	deep	The patient had [illegible] as a result of his illness.
4	*to stab*	*dead*	1.8	unpleasant	—
5	angel	beautiful	8.0		Here the feeling-tone of the previous reaction has probably perseverated. Word not at first understood. Erotic reminiscences easily aroused by this word
6.	long	table	2.8	—	
[illegible]	[illegible]	[illegible]	[illegible]	to travel to drown	Suicide by drowning
8.	to plough	peasant	2.0		
9.	wool	sheep	[illegible]		
10.	friendly	very	4.8	—	Affair with the lady
11	desk	high	3.8		Prolonged reaction-time due to perseverating feeling-tone
12	*to ask*	*difficult*	3.2	to put	Same complex
13	[illegible]	[illegible]	[illegible]		
14	obstinate	very	4.0	—	1st fiancée
15	stalk	green	2.2		
16	to dance	good	2.2		—
	lake	stormy	2.0	—	
18	ill	unpleasant	8.8		Illness.
19	conceit	very	2.8	—	Relations with the lady
20.	to cook	good	2.0	—	
21.	ink	black	1.8		—
22.	wicked	very	4.8	—	1st fiancée
23.	pin	prick	4	—	—
24	*to swim*	*not*	2.8	good	Suicide
25.	*journey*	*difficult*	2.4	long	Perseverating feeling-tone
26	blue	colour	2.0		

	Stimulus word	Reaction	Reaction time secs.	Reproduction	Remarks
27	meal	to taste	2.8		
28	to threaten	me	10.4		Fear of the future suicide
29	*lamp*	*good*	2.2	to burn	Perseverating feeling-tone
30	rich	pleasant	5.4		The lady
31	*tree*	*green*	2.1	high	Perseverating feeling-tone
32	to sing	*beautiful*	4	good	(ditto)
33	*sympathy*	*pleasant*	4.6	to have	Ostensibly the illness-complex, but probably something else as well which is not divulged.
34	*yellow*	*material*	2.4	colour	Not at first understood
35	the mountain	high	1.2		
36	to play	children	2.4		
37	salt	bitter	1.8		
38	*new*	*material*	2.4	dress	
39	*habits*	*good*	4.0	bad	Early life: adulterous relationship with the lady
40	to ride	pleasant	3.6		
41	*wall*	white	2.2		
42	*stupid*	*cattle*	4.8	very	2nd fiancée
43	*notebook*	*blue*	8.9	to write	Perseverating feeling-tone
44	*to despise*	*him*	3	me	Early life: erotic complexes
45	tooth	sharp	2.2	long	Perseverating feeling-tone
46	correct	to write	3.8		Correspondence behind 1st fiancée's back
47	people	Swiss	2.4		
48	to stink	dung	2.0		
49	*book*	*beautiful*	3.6	good	Perhaps not at first understood. Otherwise
50	*unjust*	*judge*	2.0	very	The reaction very might indicate a connection with one of the erotic complexes.

	Stimulus-word	Reaction	Reaction time (secs.)	Reproduction	Remarks
52	to separate	acid (noun)	6.0		Not at first understood. Relationship with the lady
53	hunger	pang	2.0		
54	white	lamb	2.2		
55	*cattle*	*to slaughter*	4.4	[illegible]	Memories of quarrels with 1st fiancée
56	to play at [illegible]	very	2.0		Perseverating tone
57	period	long	2.0		
58	sultry	weather	4.8		
59	plum	blue	1.8		
60	*to hit*	*target*	2.0	marksman	Rendezvous with the [illegible]
61	law	to despise	2.6		The lady is married
62	dear	she	2.6		The lady
63	glass	transparent	2.0		
64	*to quarrel*	*unpleasant*	2.2	[illegible]	1st fiancée
65	goal	pasture	3.8		Perseverating tone. Stimulus-word was repeated by the patient
66	*big*	*man*	2	child	
67	potato	to eat	8		
68	*to paint*	*[illegible]*	[illegible]	beautiful	
69	*part*	*whole*	[illegible]		Suggestion of "sexual parts."
70	*old*	coin	7.4	man	As a result of previous word the fear of impotence is aroused
71	flower	smells	1.6		
72	*to fight*	*stick*	2.0	violent	Quarrel with 1st fiancée
73	*box*	*to put in*	3.4		Perseverating tone
74	wild	horse	1.6		
75	family	to have	2.6		[illegible] fiancée.
76	to wash	face	1.8		
77	*cow*	*to slaughter*	3.6	[illegible]	Memories of rows with 1st fiancée
78	strange	to me	2.6		1st fiancée.
79	luck	to have	1.6		
80	to tell	story	1.6		
81	*praise*	*good*	2.0	[illegible]	Early life of the lady
82	narrow	boot	8	–	

Stimulus-word	Reaction	Reaction-time (secs.)	Reproduction	Remarks
83. brother	sister	1.8	—	—
84. *damage*	*to have*	1.6	to do	Impotence
85. stork	long	1.0		
86. *false*	*to write*	5.8	to speak	Correspondence behind his fiancée's back
87. fear	to have	1.2		
88. to kiss	her	2.0	—	The lady
89. fire	house	4.0		Word not understood, perseverating tone
90. dirty	street	1.8	—	—
91. [illegible]	*[illegible]*	2.[illegible]	[illegible]	
92. to elect	electorate	2.0	—	—
93. hay	sweet smelling	1.4		—
94. still	water	2.4	—	Suicide
95. *scorn*	*pleasant*	1.6	unpleasant	Perseverating tone
96. *to sleep*	*very*	2.2	deep	[illegible]
97. month	January	4.6	—	Cf. R 9; stimulus-word at first not understood. January is the critical month
98. coloured	cloth	1.6	—	—
99. [illegible]	*[illegible]*	2	[illegible]	Quarrel with [illegible] fiancée
100. to speak	sensitive	1.8		—

[illegible] In these associations several clearly feeling-toned complexes are evoked. Their symptoms are mainly the prolonged reaction and its influence on the following reactions. I cannot proceed further with this analysis as it might lead too far.

[illegible] The remarks given with the reactions should enable the reader to get his bearings. Those points where the analysis showed an association constellated by a complex have been noted. If we now look over the whole experiment we can see that with very few exceptions the incorrect reproductions to the repeated stimulus-words are those that are directly constellated by a feeling-toned complex or those that immediately

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The complex phenomena are comprehensively presented in my "The Reaction-time Ratio in the Association Experiment"; see supra.

[illegible] cate a feeling-tone

6 [illegible] feeling-tone and memory

[illegible] refer to a second case

648 CASE NO II

[illegible] the complexes broached by the associations

[illegible]

His relationship with his family is strained

[illegible]

One of these relationships is with a Greek woman. In the year [illegible] was just completed [illegible] he [illegible]

Complex III. [illegible] recently [illegible] to become engaged to a woman of means, but it came to nothing.

Complex IV. [illegible] which seems to keep [illegible] occupied [illegible] he is also enthusiastic about rowing and other sports.

I am giving the details of the associations in this case. The method of analysis is the same as that I have already demonstrated in the work on the reaction times. I have marked with the appropriate number all the places where the analysis certainly or in all probability shows a complex. Those associations to which the reactions were either not remembered or wrongly remembered in the reproduction test are shown in the table as on the previous occasion.

	Stimulus word	Reaction	Reaction time sec.	1st Reproduction	2nd Reproduction	Remarks
1	*head*	*hat*	2.8		cover	[illegible] complex (ass's ears) and the [illegible]
	green	[illegible]	1.4			
3	water	stream	2.6			IV
4	to stab	spear	2.8			I. Sabre [illegible]
5	angel	[illegible]	1.8			
6	long					I. Not understood, reaction omitted.
7	ship	building	1.0			
8	to plough	field	2.2	—	—	IV
9	wool	sheep	1.8	—	—	IV
10	friendly	Mr Z.	2.4			Acquaintance at the hospital.
	desk	bank	2.2			
12	*to ask*	*answer*	4.6		[illegible]	II
13	*state*	[illegible]	4.8		[illegible]	Perseverating; R. [illegible] refers to complex II. Owing to the perseverating feeling-tone the reproduction is disturbed.

	Stimulus Word	Reaction	Reaction time in sec.	1st Reproduction	2nd Reproduction	Remarks
14	obstinate	wench	1.8			"The Obstinate Wench," popular song. The stimulus word *to ask* has touched complex III. How much the feeling-tone reverberates can be gathered from the way the reaction-times increase and from the content of R. 14.
15.	stalk	flower	[illegible]			
16.	to dance	ladies	3.8			III
17.	lake	Zurich	[illegible]			V
18.	[illegible]	*medicine*	4.2		[illegible]	I. Complex of hospitalization, observation of his mental state
19.	pride	Mr. S.	[illegible]			I. Acquaintance in the hospital
20.	to cook	kitchen	[illegible]			
21.	ink	to write	[illegible]			
22.	*wicked*	Mr. E.	3.0	[illegible]		I
23.	*pin*	*fire*	3.2	[illegible]	[illegible]	II
24.	to swim	water	[illegible]			IV
25.	journey	adventure	3.8			I,
26.	blue	colour	[illegible]			
27.	bread	corn	2.8			V
28.	*to threaten*	angry	3.0		[illegible]	I. Duel complex
29.	lamp	light	[illegible]			
30.	*rich*	*money*	3.4	—	[illegible]	III
31.	*tree*	*leaves*	3.0	leaf		
32.	to sing	music	2.8			Here the critical reaction is obviously *rich money*, after which the reaction-times decrease in proportion. The reaction after the critical one is [illegible]
33.	sympathy	to have	2.6			

	Stimulus word	Reaction	Reaction time (secs.)	1st Reproduction	2nd Reproduction	Remarks
34	yellow	colour	2.8			
35	*mountain*	*climbing*	8		[illegible]	
36	to play	[illegible]	3.0			IV
37	salt	sea	4.2			
38	new	Greek	6.8			I
39	habits	& customs	2.0			
40	to ride	horse	1.8			
41	wall	papered	3.4			
42	*stupid*	*Mr B*	6.4	[illegible]		I Similar to R 28 same complex
43	notebook	[illegible]	2.4			
44	to despise	Mr H	2.8			I Acquaintance in the hospital. With this man the patient had had a similar experience to that given in complex I
45	tooth	to pull	2.4			
46	[illegible]	[illegible]	8.[illegible]	right and proper		I Connected with the dental complex
47	people	race	2			
48	to stink	carbolic	4.6			I The hospital
49	book	to read	6			
50	[illegible]	Russia	4.[illegible]			
51	frog	leg	[illegible]			
52	*to separate*	*marriage*	[illegible]			I
53	hunger	[illegible]	[illegible]			
54	white	colour	[illegible]			
55	cattle	cattle breeding	2.[illegible]			IV Here again the timing shows a regular decrease after the critical reaction
56	*to pay attention*	*lecture*	[illegible]		question	IV
57	pencil	[illegible]	4.2			
58	sultry	[illegible]	[illegible]			I Stay in hospital
59	plum	[illegible]	[illegible]			IV
60	to hit	to shoot	[illegible]			I
61	*law*	[illegible]	[illegible]			I
62	dear	beloved	[illegible]			II or III
63	glass	[illegible]	[illegible]			—

Stimulus word	Reaction	[illegible] secs	Reproduction	[illegible]	Remarks
64. to quarrel	difference	4.8			I
65. goat	farming	2.8			IV
66. big	Germany	1 2	?	tree [illegible]	Refers to himself as [illegible]
[illegible]	farming	2.8			IV
[illegible]	[illegible]	2.4	—	—	
[illegible]	to have	4.6			I.I. He had hoped to become a partner [illegible]
70. old	to become	1.8	—	—	
[illegible] *flower*	*blossom*	3.4	—	stem, to bloom, leaves	IV
[illegible] to fight	sabres	4.0	—	—	I
[illegible] box	[illegible]	2.8			
wild	*to become*	3.2	—	to be	I. Wild [illegible]
[illegible]	[illegible]	4.6			I
to wash	soap	3.6	—	—	—
[illegible] cow	farming	4.4			IV
[illegible] strange	to be	4.0	—	—	—
[illegible] luck	lucky	2.2			
[illegible] to tell	story	6	—	—	
[illegible] *poise*	*to have*	3.0		& customs	I.
[illegible] *narrow*	*a flat*	5.0	rooms	—	I. Stay in hospital
[illegible] brother	[illegible]	4.4			I
[illegible] *damage*	[illegible]	[illegible]	to have, [illegible]	to have, to suffer, [illegible] to afflict	I. Refers to excesses [illegible]
85. stork	bird	4.0		—	Word not at first understood
86. false	envy	4.8		to be	
[illegible]	[illegible]	[illegible]			
88. to kiss	pleasant	3.4			II
89. fire	brigade	6.4	—	—	—
90. dirty	street— [illegible]	6.8			Marked increase in [illegible] from R 86 onwards. Cf. below
91. door	to open	8		—	—
92. to elect	election	3.2	—	—	
93. hay	haymaking	3.2			IV
94. still	at night	3.6	—	—	II.

	Stimulus-word	Reaction	Reaction-time (secs.)	1st Reproduction	2nd Reproduction	Remarks
95	scorn	derision	1.8	—	—	[illegible]
96	to sleep	at night	2.0	—	—	I
97	month	12 months in a year	3.2			
98	coloured	flowers	8.2			—
99	dog	Great Dane	2.4	—		
100.	*to speak*	*foreign language*	5.0	?	—	II The Greek woman

[illegible] These reactions show various [illegible] the complex [illegible] onwards, there is a marked increase in the reaction-time. I suggested to the patient [illegible] There is a [illegible] increase [illegible] seconds. Complex characteristics [illegible] had begun an affair behind our back.

[illegible] was from a girl whom he had met when he was [illegible] on [illegible] and suggested how they could keep their [illegible] and how they could arrange a rendezvous.

650 In this series of associations there are various complexes expressed in the usual way. Out of one hundred reactions there are only 15,[7] in which memory failed. When we now examine where these 15 unrepeated reactions occur, we see that [illegible] of them are found at points constellated by a complex or [illegible] follows immediately on a complex reaction. We may therefore suppose that the disturbance of memory is connected with the complex or with its feeling-tone. As I have shown earlier,[8] strong emotions, especially feelings of unpleasure, are expressed in abnormally long reaction-times.

651 The arithmetical mean time of all correctly repeated reactions is [illegible] seconds. The mean of those not repeated is [illegible] seconds. Thus the times taken for those reactions not repeated

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[7] [The table is apparently defective, [illegible] in which there are actually 17, not 15, incorrect reproductions. There are 14 in the second column.]

[8] "The Reaction-time Ratio in the Association Experiment."

are significantly longer than those of the others, which gives us a further confirmation of our supposition that there is a connection between the disturbance of memory and the strong feeling-tone of the reaction.

The first reproduction test followed immediately after the trial of [illegible] direct reactions. I had the test repeated again on the following day, and the results are shown in the column headed "2nd Reproduction."

Of the remembered reactions, 4 were incorrectly reproduced in the second test. The second reproduction was assumed to be correct if it was the same as the first reproduction, even when the original reaction had been incorrectly remembered.

Eleven of the fourteen incorrect reproductions concern reactions that had been correctly reproduced the first time but [illegible] because of their content or the length of time taken appeared to suggest the presence of a complex. Only three were wrongly remembered in the second reproduction. We can thus see that the amnesic linkages have developed further in the same direction as in the first reproduction test, and give rise to a series of reactions that also belong to the complexes. For practical purposes it would seem to be advisable to leave some time between the first test and the reproduction tests.

In my experience the amnesic linkages occur just as frequently with critical reactions as with those immediately following. These two cases represent the usual behaviour.[3] There are even more [illegible] instances, particularly as it seems in hysteria, where the feeling-tones are of great intensity and can extend over many subsequent reactions. Thus, I recently found in the case of a 24-year-old hysterical woman who had only [illegible] per cent of incorrect reproductions the following interesting chain of reactions:

1. water		—	(no reaction)
2. to sting	bee	1.8	
3. *[illegible]*	*[illegible]*	21.0	In the repeat the patient [illegible] she had not given any reaction as with No. [illegible]
4. *[illegible]*	*[illegible]*	[illegible]	
5. *[illegible]*	*[illegible]*	[illegible]	
6. *to plough*	*field*	4.2	R. garden

[German *[illegible]*; in Switzerland a name sometimes given to a farm or house.]

[illegible] stimulus [illegible] awakened the memory of a [illegible] analysis [illegible] appeared [illegible] to be amnestically blocked.

[illegible] still [illegible] particular [illegible] result [illegible] point [illegible] severating unpleasure.

[illegible] screen memories. [illegible] example [illegible] several young girl takes [illegible]

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*Cf. Pick, "Zur Psychologie des Vergessens bei Geistes- und Nervenkranken," 1905.

**"A Case of Hysterical Stupor in a Prisoner in Detention" [illegible]

[illegible] "Symptom" (1904).

[illegible] behind the suspect reaction.

[illegible] As [illegible] experience shows [illegible]

[illegible] eines Falles von Hysterie [illegible] 1905.

PSYCHOANALYSIS AND ASSOCIATION EXPERIMENTS[1]

660 It is not easy to say in a few words what is the essence of Freud's theory of hysteria and of the psychoanalytic method. Freud's terminology and his conceptions are still in the making, which, I may say, is fortunate, because in spite of the amazing progress that, thanks to Freud's contributions, insight into hysteria has made in recent years, neither Freud nor we others have as yet gained full knowledge of it. It is therefore not surprising that Freud, in his most recent publication on hysteria, has for the most part abandoned the terminology that he had used in the *Studies on Hysteria* and substituted for it a number of different and more fitting expressions. One must not understand Freud's terms too literally as always sharply defined scientific concepts but rather as opportune coinages from his rich vocabulary. Anyone writing about Freud should therefore not argue with him about words but rather keep the essential meaning in mind.

661 Freud sees hysteria as caused by and manifesting a series of psychic traumas culminating at last in a sexual trauma in the prepubertal period. The so-called psychogenic character of hysteria was of course already known before Freud. We have to thank Möbius[2] in particular for a concise definition of the term "psychogenic." It was known that hysteria stems from ideas marked by the strength of their affect. But it was only Freud who showed us what are the psychological processes. He found that the hysterical symptom is essentially a symbol for fundamentally sexual ideas that are not present in consciousness but are repressed by strong inhibitions. The repression occurs because these sexual ideas are so charged with painful affects as to make them incompatible with ego-consciousness.

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[1] [First published as "Psychoanalyse und Assoziationsexperiment," [illegible] Neurologie [illegible] 1-24 [illegible] M. Herrmann [illegible] M. D. Eder [illegible] 92 [illegible] 297 [illegible]

[2] Paul Julius Möbius (1853–1907), German neurologist [illegible] Freud.

662 The psychoanalytic method is inseparably linked with this interpretation. It acknowledges the concept of repressed and therefore unconscious ideas. If we inquire from patients about the cause of their illness, we always obtain incorrect or at least incomplete information. If we had been able to get proper information as in other physical diseases, we should already have known a long time ago the psychogenic nature of hysteria. But it is just the trick of hysteria that it represses or forgets the real cause, the psychic trauma, and substitutes for it superficial cover causes. We [illegible] from hysterics that their illnesses come from a cold, overwork, from real organic disturbances, etc. And so many doctors are fooled again and again. Others go to the opposite extreme and allege that all hysterics are liars. Neither [illegible] entirely understands the psychological peculiarity of hysteria, which actually exists only because [illegible] ego-consciousness [illegible] been repressed and are therefore [illegible] reproduced. By means of Freud's psychoanalysis [illegible] the barriers between ego-consciousness and repressed ideas are bypassed. This method consists in [illegible] the patient simply telling spontaneously everything that comes into his mind. Freud called this "free association." A more accurate description of this method can be found in Freud's book *The Interpretation of Dreams*. Although it is theoretically a priori certain that all human acts are determined in a most wonderful way by psychological laws, it is not easy to [illegible] that the [illegible] experienced person [illegible] [illegible] and [illegible] finally be completely [illegible] and still remain [illegible] the general acceptability of Freud's method that the prerequisite for the practice of psychoanalysis is psychological sensitivity as well as technique, the characteristics [illegible] cannot be taken for granted in every physician or psychologist. Then there is a particular way of thinking required for psychoanalysis, which aims at bringing symbols to light. This [illegible] acquired by constant application. This way of thinking [illegible] is innate in a poet [illegible] is carefully avoided in scientific thought, which [illegible] clear [illegible] ideas. Thinking in symbols [illegible] from us [illegible] similar to starting to think in figures [illegible]. These seem to be the reasons why Freud's method has only exceptionally been understood and even more rarely

practised. So far there are only a very few authors who approve of Freud: [illegible] Löwenfeld, Vogt, Warda, Strohmayer, Riklin, Otto Gross, Hellpach.

660 Freud's psychoanalysis is, in spite of the many valuable experiences given [illegible] its author, still a rather difficult art, since the beginner easily loses courage and orientation when confronted with the countless obstacles it contains. We lack the security of a framework [illegible] enable us to seek out essentials. Having to search for and [illegible] treatment is often to run the risk of realizing that one has no idea at what point to tackle the problem.

661 The association experiment has helped us to overcome these first and most important difficulties. As I have shown particularly in my paper "The Reaction-time Ratio in the Association Experiment," complexes or ideas charged with [illegible] emotionally charged are shown up in the experiment by [illegible]; their presence and quality can be [illegible] from these disturbances. This fact is known to be the basis of the "psychological diagnosis of evidence" initiated by Wertheimer and Klein,[3] Hans Gross, and Alfred Gross [illegible] apparently [illegible] diagnosing [illegible] from the associations the complexes [illegible]. Every [illegible] has one or more complexes that manifest themselves in some way in the associations. The background [illegible] consists of such complexes. [illegible] remembered is grouped around these. [illegible] higher psychic units [illegible] ego-complex. They constellate our [illegible] thinking and acting, therefore also [illegible] associations. With the association experiment we [illegible] reproduction test.[5] [illegible] making the subject [illegible] now be

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[illegible] Vol. 18, *Miscellany*.]

[2] [illegible]

[3] [illegible] "Psychologische Tatbestandsdiagnostik" (1904); [illegible] "Tatbestandsdiagnostik" (1905).

[4] "Die Assoziationsmethode im Strafprozess" (1906). [illegible] "Psychologische Tatbestandsdiagnostik" (1905).

[5] [illegible]

[illegible] in the first test. [illegible] of the complex-disturbances.

[illegible] differs [illegible] been given [illegible] In the papers [illegible] Freud's [illegible] the present paper I propose [illegible] association experiments [illegible] examples [illegible]

[illegible] a peculiar way.

[illegible]

[illegible]

[illegible] entirely dominated by the obsessional idea.

[illegible] eyes fixed on [illegible] from the very beginning by [illegible]

1. THE ASSOCIATION EXPERIMENT

667 Here is the whole test:[1]

Stimulus-word	Reaction	Reaction time (sec.)	Reproduction
1. *head*	*thoughts*	2.2	*hair*
2. green	grass	[illegible]	+
3. *water*	*drinker, to drink*	2.4	*glass*
4. [illegible]	[illegible]	[illegible]	+
5. angel r	heaven	2.6	+
6. long r	short	4.0	+
7. ship	sea	1.4	+

668 I cannot give a complete analysis of the associations. [illegible] that is, being [illegible] It was [illegible] impossible to find the determinants of the reactions by means of subjective analysis. The [illegible] of the experiment was [illegible] the complex [illegible] The [illegible] dependent on the information given by the patient. I should like to explain in as much detail as possible how I came to this diagnosis.

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[1] The incorrectly reproduced associations are in italics. + = correct reproduction. r = where the patient repeated the stimulus-word quickly in the reaction. One frequently meets this phenomenon in and after complex-reactions.

[illegible] In a [illegible] I [illegible] be [illegible] the experimenter [illegible] intelligent and educated person [illegible] the [illegible] emotional [illegible] The [illegible] asked [illegible] during the [illegible] discussion of the reactions.

[illegible] is wrongly reproduced. [illegible] the illness may have had an influence here.

[illegible] has been [illegible] The [illegible] heavy [illegible] are all longer than [illegible] From [illegible] persevering [illegible] sumed.[illegible]

[illegible] the neigh[illegible] without the sacrament.

8. to plough	to sow	2.0	+
9. wool	to spin	3.4	—
10. friendly	loving	3.6	good
11. table	woman	5.6	+
12. to ask	to reply	2.4	+
13. state	church	2.2	+
14. [illegible]	brave	1.8	friendly
15. stalk	flower	1.8	+

[illegible] What [illegible] Experience shows that [illegible] that the word *friendly* [illegible] eleven [illegible] becomes apparent [illegible] reappearance [illegible]

[illegible] Reaction-time Ratio [illegible]

[illegible]

— = not reproduced

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] be reproduced than others.

16. to dance	to jump	1.8	+
17. lake	[illegible]		+
18. ill	healthy	2.0	+
19. pride	haughty	5.0	+
20. [illegible]	[illegible]	[illegible]	
21. ink	pot	[illegible]	
22. *wicked*	*good*	5.0	
23. needle	prick	2.2	+
24. to swim	water	2.0	+
25. journey	railway	2.2	+
26. blue	red	1.8	+
27. bread	knife	2.0	+
28. *to threaten*	*naughty*	8.0	

[illegible] [illegible] [illegible] [illegible] [illegible] arouse [illegible] [illegible]. This assumption [illegible] [illegible] [illegible] [illegible] because the following reaction is disturbed.

[illegible] [illegible] [illegible] [illegible] [illegible] been taken personally [illegible] [illegible] [illegible] complex [illegible] [illegible] [illegible] are [illegible] *bread* [illegible] [illegible] arouse feelings too. The response [illegible] [illegible] [illegible] sounds [illegible] association [illegible] childish [illegible]. Has [illegible] [illegible] [illegible] [illegible] aroused here? [illegible] [illegible] [illegible] [illegible] [illegible] associations. People [illegible] [illegible] complexes are usually [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] threatening [illegible] [illegible] nature. [illegible] there [illegible] [illegible] [illegible] associations as well. One [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] has [illegible] [illegible] [illegible] [illegible] [illegible] means [illegible] complex [illegible]. It seems [illegible] wiser, however, to consider the [illegible] [illegible] complexes [illegible] [illegible] [illegible] [illegible] analyses.

29. lamp	light	1.8	+
30. rich	poor	1.8	+
31. tree	green	1.2	+
32. to sing	to dance	2.0	+
33. pity	poor	2.0	+
34. *yellow*	*flower*	4.2	*green*

35.	mountain r.	work[10]	2.8	+
36.	*to play*	*children*	2.2	*to dance*
37.	salt	bread	2.8	+
38.	new	old	1.6	+

P[illegible] [illegible] ed in the pre[illegible] [illegible] here twice [illegible] revealing a clear [illegible] [illegible] with [illegible] several [illegible] In this way frequent repetitions can give away a great deal. A gentleman whom I had asked to be a subject for the experiment was [illegible] he would [illegible] give away any complexes. On the way to me he worked out what he would answer [illegible] answer occurred [illegible] he would say Paris, a word that seemed to him to have absolutely no personal meaning. True enough, he repeated Paris many times [illegible] the experiment, declaring [illegible] he [illegible] Six months later he confessed [illegible] that at the time of the experiment he had still been under the impression of an event that had strangely affected him [illegible] Paris. At the time, however, he had thought that Paris had no significance at all for him. I have no reason to doubt this man's truthfulness. [illegible] certainly had a personal effect, originating from the surrounding complex disturbances. The patient [illegible] complex. Women are very sensitive to such things [illegible] an erotic complex is present.

[illegible] *laden* (40) is not reproduced but replaced by another [illegible] term seems to be worth mentioning.

39.	*habit* r	*nasty or bad*	12.2	*vicious habit*
40.	to ride r	to drive	2.4	+
41.	*wall*	*room*	3.0	−
42.	*witty* r	*clever*	2.8	
43.	exercise-book	book	3.0	+
44.	[illegible]	[illegible]	1.2	[illegible]
45.	tooth	abscess	1.4	+

This sequence [illegible] several [illegible] complex disturbances. With [illegible] and [illegible] (44) the patient made [illegible] her [illegible] A[illegible] ugly[11] or [illegible] easily [illegible] interpreted in a sexual sense [illegible]

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[10] [The association [illegible] seems to have been suggested by *Bergwerk*, 'mine.']

[illegible] it is [illegible] that [illegible] people [illegible] doing [illegible]

[illegible] 42 [illegible] be personal [illegible] the range [illegible] the emotional charge persevering [illegible] gestures [illegible] sex [illegible] In some [illegible] instances [illegible] complex [illegible]

46	*correct* r	*I should always like to say just the opposite*	7.6	*incorrect*
7	people r	father	6.0	+
4	to stink	fragrance	4.8	—
4	*book* +	*pen*	4.4	*exercise-book*
[illegible]	*unfair* t.	*sense*	3.6	*fair*
1	frog	green	2.4	+
2	to separate	marriage	2.2	+
4	hunger	thirst	1.4	+
[illegible]	white	black	1.8	+

[illegible] In the patient, as we [illegible] makes the [illegible] seems per[illegible] and has a [illegible] complex as [illegible] understand [illegible] that [illegible] I should [illegible] like to say the opposite [illegible] disposition [illegible] These [illegible] are determined [illegible] French [illegible] are even [illegible]

[illegible] In the person [illegible] associated with [illegible] The reaction [illegible] seems [illegible] of the complex [illegible] change [illegible] this would lead [illegible] is some [illegible] The [illegible] will become [illegible] later [illegible]

[illegible] W[illegible] seem [illegible] easy to say [illegible] pronounced as it is spelled [illegible] means [illegible] the Swiss dialect. In a sexual complex [illegible] I have seen [illegible] repeatedly [illegible] other subjects.

[illegible] The [illegible] decrease of the reaction times [illegible] however [illegible] begins [illegible] This [illegible] and gradually decreases during the next seven reactions [illegible] been taken personally and this fits well with her self-examination.

55.	father	cow	4.2	+
56.	to attend	disobedient	4.0	+
[illegible]	*pencil*	*to sharpen*	3.0	*pointed*
58.	dull	weather	1.8	+
59.	plum	tree	3.8	+
60.	to meet	certain	1.4	+
61.	saw	stale	2.8	+
62.	*dear*	*good*	4.0	*child*
[illegible]	glass	wa-water	1.6	+
[illegible]	*to quarrel*	*argument*	2.4	*discord*
[illegible]	*goat*	*milk*	2.0	*to milk*

[illegible] I have no explanation for the disturbance at *to attend* [illegible] *disobedient* [illegible] reminds one of the previous [illegible] which may be related to the pupil already mentioned. The disturbance of the following unrelated reaction indicates the perseverating emotional charge. R[illegible] *plum* [illegible] *tree* does not seem to have passed by smoothly, judging by the length of the reaction time. The word here used for *plum* is not an everyday word; it is, however, unlikely that for this reason it takes an educated subject such a long time to react. We [illegible] have average figures varying between [illegible] secs. and [illegible] secs. Therefore [illegible] seems far [illegible] long for an educated person. The German *Pflaume* [illegible] is [illegible] Swiss [illegible] a popular sex-symbol in our colloquial language.

[illegible] *Dear* [illegible] easily [illegible] an erotic complex. A *glass* [illegible] the complex [illegible] apparently comes to the surface again with the strong emotional charge attached to [illegible] the following reactions:

66.	large	small	2.6	+
67.	potato	floury	6.0	+
68.	to grind	mill	2.0	+
69.	pastor	sin	11.[illegible]	+
70.	*old*	*ugly*	3.0	*young, unattractive*
71.	*flower*	*beautiful*	2.0	*scent*
72.	*to beat*	*rod*	2.8	
73.	cupboard	table	2.8	+

[illegible] *Ugly* [illegible] personally. The patient is very short. With an erotic complex she is, as we have already seen [illegible] the [illegible] with the body [illegible] straight [illegible] the following [illegible]

687 [illegible]

that she had caused her pupil's death

74.	wild	child	2.4	+
75.	family	large	2.4	+
76.	to wash r.	to clean	3.0	+
77.	cow	to milk	1.8	+
78.	stranger	[illegible]	[illegible]	+
79.	happiness r.	unhappiness	3.0	+
80.	to tell	story	1.6	+

688 [illegible] personal association [illegible] later on.

81.	propriety	intellect	4.6	+
82.	narrow r.	small	3.2	+
83.	brother	sister	1.0	+
84.	damage r.	neighbour	4.0	+
85.	stork r.	church	2.4	+
86.	false r.	unfaithful	3.0	+
87.	fear	anxiety	2.4	+
88.	to kiss	mouth	2.2	+
89.	fire	blaze	1.8	+
90.	dirty	sticky	2.2	+
91.	door	fold	1.6	+

689 The [illegible] association of 81 *propriety intellect* (An- [illegible] There [illegible] Here [illegible] complex [illegible]

popular belief masturbation destroys the reason, the intellect. One has also to bear in mind the patient's [illegible]; she is afraid of losing her reason.

690 *Narrow* – *small* (88) is still under the influence of the preceding reaction *small*; probably belongs to the body-complex in view of its being repeated (the word *narrow* may, under the constellation of the preceding association, refer to the [illegible] *vagina* and therefore be connected with *small*, which indicates her figure. The [illegible] part [illegible] *small* [illegible] this assumption will be confirmed). *Damage* (84) is probably taken personally; *neighbour* fits reality. She has done immense damage to the neighbour by being guilty at her dying, as she believed. Under the sexual constellation, however, *damage* can also have been taken personally: one does personal and mental damage to oneself by masturbation (see above). The neighbour then provides a cover (see Freud's similar conclusions). Behind the neighbour the patient herself may be hidden. That an emotional charge intervened here becomes apparent from the following disturbances. At 86 *false* – *unfaithful*, a definite erotic reminiscence can easily have come to the surface in an elderly spinster.

92.	to choose r	teacher	4.4	+
93.	hay	straw	1.8	+
94.	*still*	*stool*	13.0	*child*
95.	mockery	scorn	1.4	+
96.	to sleep r	to wake	8.4	+
97.	month	year	1.6	+
98.	coloured	gaudy	2.4	+
99.	dog	cat	1.2	+
100.	to talk	to be silent	1.4	—

691 To *choose* (92) women like to associate the thought of marriage.

692 The patient's father was a teacher. She is a teacher. It would be easy to assume that she has marriage with a teacher in mind. The father-complex may, however, also have to be considered here (see below). *Still* – *stool* (94) is a striking sound association. The explanation is given by the erotically charged term *child*. A child can be stilled, but the dead are also still. Obsessive idea: she has caused the pupil's death by ill-treating him. Behind this there may be erotic connections associated

as a German student song. Cf. 40, *book*, and subsequent comment. The same word [illegible] can be used for suckling a child or quieting sexual desire. *To sleep* also has many erotic associations. The patient cannot sleep, for instance; sleeplessness in younger people, however, is often the expression of lack of sexual satisfaction. [illegible] Anyone who is experienced in the field of pathological association psychology will probably shake his head at the above suppositions; he will perhaps see in them not just hypotheses but sheer phantasms. The judgment on them will perhaps be the same as on Freud's *Interpretation of Dreams*.

[illegible] Let us next summarize the results of the association and reproduction test. As I have already said, the patient did not give me any information about herself. I am therefore entirely dependent on the objective data of the test and on my experience.

[illegible] The probable mean of the reaction-times is 2.4 secs. Forty per cent of the reaction-times exceed 2.4 secs. Amongst these are figures [illegible] secs., pointing to the unusual intensity of emotion or, in other words, a considerable lack of control of the psychic material.

[illegible] In the analysis we inferred the existence of various complexes. The erotic complex appears to play a dominant role. Here I give a tabulated survey of the complex-reactions. The following examples should be understood as related to an erotic complex.[16]

10.	*friendly*	*loving*	3.6	*good*
11.	*table*	*woman*	4.6	—
12.			2.4	
13.			2.2	
14.			1.8	
16.	to dance	to jump	1.8	+
17.	lake r.	water	2.4	+
34.	*[illegible]*	*flower*	[illegible]	*green*
35.	mountain r.	work[17]	2.8	+
36.			2.2	

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[16] [In order to show the complex disturbances in relief, I am adding also the perseverations, [illegible] and also the gradually decreasing times of the subsequent reactions.

[17] See supra, n. 15.]

[illegible]	*habit* r	*nasty or bad*	12.2	*vicious habit*
[illegible]	to ride r	to drive	2.4	+
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	*to scorn*	*disdain*	15.2	*to despise*
[illegible]			1.4	
[illegible]	plum	tree	3.8	+
[illegible]	*dear*	*good*	4.0	*child*
[illegible]	[illegible]	[illegible]	[illegible]	+
[illegible]	potato r	floury	6.0	+
[illegible]			[illegible]	
[illegible]	part r	small	11.6	—
[illegible]	*old*	*ugly*	3.0	*young,* [illegible]
71	*flower*	*beautiful*	2.0	*scent*
72.	*to beat*	*rod*	2.8	
73			[illegible]	
74	wild	child	2.4	+
75.	family	large	2.4	+
76.	to wash r	to clean	3.0	+
81	property	intellect	4.6	+
82	narrow r	small	3.2	+
84			[illegible]	
86.	false r	unfaithful	3.0	+
87			[illegible]	
88.			[illegible]	
89.			1.8	
92	to choose r	teacher	4.4	+
93.			1.8	
94	*still*	*stool*	13.0	*child*
95.			1.4	
96.	to sleep r	to wake	3.4	+
97			1.6	

[illegible] [illegible] ances, could be interpreted as follows

[illegible] [illegible] is very sensitive [illegible] sexual complex that the [illegible] wider sense of a perverse self-satisfaction.

698 [illegible] sexual complex [illegible] associations:

[illegible]	*sulky*	*brave*	1.8	*friendly*
[illegible]	pride	haughty	5.0	+
[illegible]	*wicked*	*good*	4.0	-
"			[illegible]	
"			[illegible]	
42	*silly* r	*clever*	[illegible]	
43	exercise-book	book	[illegible]	-
46	*correct* r	*I should always like to say just the opposite*	7.6	*incorrect*
47	people r	father	6.0	+
48.	to stink	fragrance	4.8	
49.	*book* r	*pen*	4.4	*exercise-book*
50	*unfair* r	*sense*	3.6	*fair*
			[illegible]	
"			[illegible]	
53			[illegible]	

699 [illegible] complex [illegible]

3.	*water*	*drinker, to drink*	2.4	*glass*
4			3.6	
63.	glass	wa-water	1.6	
64	*to quarrel*	*argument*	8.4	*discord*
65.	*goat*	*milk*	2.0	*to milk*

700 [illegible] the sexual complex [illegible] firmed for the reasons I have just given.

The reproaches are originally restricted to the sexual complex but, according to our experience, are soon applied to a wider field.

I told her therefore that I was sure her obsessional ideas were nothing but excuses and subterfuges, that in reality she was tortured by sexual ideas.

The patient denied this explanation with affect and sincere conviction. Had I not been firmly convinced, thanks to the association experiment, of the existence of a particularly marked sexual complex, my certainty would probably have been shaken. I appealed to her intelligence and truthfulness; she assured me that if she knew [illegible] she would tell me [illegible] [illegible] [illegible] [illegible] [illegible] from the door. She [illegible] [illegible] getting [illegible] [illegible] as every one else [illegible] [illegible] [illegible]. After this I ended the [illegible] and asked her to come again in two days' time.

2. Psychoanalysis

For psychoanalysis the patient's mental condition is important, but still more important is the mental condition of the doctor. Here probably lies the secret of why Freud's psychoanalysis is disregarded by the world of science. He who approaches a case with anything but [illegible] [illegible] soon gets lost in the snares and traps laid by the complex of hysterical illness at whatever point he begins to take hold of it. One has to know from the very beginning that everything in the patient is striving to prevent an exploration of the complex. Where necessary, not only the patient's interests and his regard for the doctor fail, but also his striking memory and his fine command of his language. But precisely these peculiar defence mechanisms give the complex away.

It is as hesitating, faulty reproduction and [illegible] the other characteristic disturbances always occur in the association experiment whenever the complex is touched [illegible] [illegible] always arise when one gets near the complex. In order to bypass these resistances Freud, as is well known, uses free associations. It is a very simple method and one has only to practise it for some time to become reasonably familiar with it. In this case I carried out psychoanalysis strictly on Freud's lines. I made the patient take an easy chair and sat down behind her so as not to embarrass her. Then I asked her to tell me calmly everything that came into her mind, no matter what it was about. She [illegible] laughed sure why one could not say every piece of nonsense that came into one's mind. But I adhered to my request. Then she tried several times to say something, suppressed it, however, each time with the excuse that it was silly. I would laugh at her and think she was an ungrateful person who could only offer banalities. I did nothing but encourage her to continue to talk and eventually the patient produced the following sentences: "I think I shall never get well—now you are sure to laugh. But I am convinced that I shall never get well. You cannot hypnotize me. You will no more cure me than any other doctor has—I shall only get worse because now I have to reproach myself that all this is useless. I am only needlessly wasting your time." This idea was not quite unjustified because the patient always hurried out of the séances after [illegible] afterwards, so that it took us almost half an hour to bring her to the degree of rest. She continued: "Then, thinking how many people at home now are at their work and how they succeed, while I am here good for nothing but my silly ideas. You will also certainly become indignant. It is terrible: as I am thinking, I cannot sleep. All last night I took a good dose of Veronal, although you have forbidden it. I am sure I shall never be able to sleep. How can you expect to cure me? What do you want me to tell you?" Here a certain restlessness became noticeable. "But I cannot tell you every piece of nonsense that comes into my head." Increasing restlessness, struggling. The patient makes stamping movements with her foot, now and then shakes herself as if in great indignation. "No, this is nonsense. I don't know of anything else now. Really, I don't know of anything else." Very restless, struggles and turns her head, makes defensive movements by shaking her head to and fro, and makes elbow movements as if pushing something away. At last she jumps up and wants to go; she cannot think of anything else at all. With gentle force I make her sit down once more and remind her that as she has come to me to be treated she must follow my directions. After a long debate on the use and purpose of my method, she at last consents to stay and continue, but soon the movements of indignation and defence are resumed. She literally wriggles in her chair; occasionally she straightens herself with a jerky movement, as if she had come to a decision after the greatest struggle with herself. At last she [illegible] (by some [illegible] are [illegible] all [illegible] [illegible] something [illegible] I [illegible] [illegible] I [illegible] only [illegible] [illegible] I [illegible] shall be [illegible] We [illegible] I [illegible] [illegible] I was a governess in [illegible] there was a [illegible] [illegible] there was a gardener [illegible] goodness sake what [illegible] of me? This is really [illegible] I [illegible] never [illegible] such a thing!"

[illegible] these [illegible] the following story [illegible] emerged with innumerable stoppages and many [illegible] which she asserted [illegible] was the first and last session with me.

He [illegible] a gardener [illegible] that he would like to sleep with her [illegible] saying [illegible] passed [illegible] When [illegible] that evening she [illegible] at [illegible] what [illegible] would be [illegible] sleep with her [illegible] afraid [illegible] her [illegible] night [illegible] she was still [illegible] what it would be like [illegible] would [illegible] like [illegible] sleep with the gardener [illegible] leave her [illegible] she was again [illegible] [illegible] she was unable to get to sleep [illegible] the morning.

The first session took no less than an hour and a half. Its result was a sexual history. What was particularly interesting to me was [illegible] the spontaneous appearance with the same gestures that I had immediately noticed in the patient at the first consultation. These [illegible] phenomena [illegible] very [illegible] easily understandable [illegible] connection with the repressed sexual material. I arranged the following session [illegible] days later, which was [illegible] very [illegible] and [illegible] saying [illegible] word [illegible] leaving.

O[illegible] the day [illegible] the appointment I was [illegible] when [illegible] and therefore sent her a message saying [illegible] the evening instead. She, however, sent [illegible] but she [illegible] not possibly [illegible] speak [illegible] spent [illegible] appeared and [illegible] I [illegible] great distress [illegible] I asked [illegible] again [illegible] session [illegible] No [illegible] worse [illegible] sense [illegible] I [illegible] last time. Now I can [illegible] these stories and therefore [illegible] I [illegible] nights [illegible] I have [illegible] peace. She went [illegible] last time she had gone home very [illegible] altered [illegible] gas [illegible] and [illegible] last be able to sleep. [illegible] was [illegible] really [illegible] importance. [illegible] last session [illegible] last time [illegible] everything she [illegible] Then [illegible] would [illegible] the analysis [illegible] suddenly [illegible] the endless [illegible] of [illegible] I was [illegible] resistance. The patient repeated [illegible] the [illegible] session [illegible] I [illegible] the same house where the [illegible] was a governess there was also [illegible][15] [illegible] she [illegible] sex [illegible] This girl [illegible] sexual intercourse [illegible] gardener. The patient [illegible] sexual [illegible] the sex [illegible] investigate [illegible] beds [illegible] signs of sexual [illegible]. Every time [illegible] the patient suffered the severest self-reproaches [illegible] sleepless nights, during which she tossed [illegible] tormenting reproaches and voluptuous fantasies.

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[15] Cf. the reference to this maid in the first session.

Wo[illegible] these [illegible] the patient declared [illegible] she [illegible] was ill [illegible] same [illegible] nothing. These stories [illegible]

Two days later [illegible] session [illegible] the previous session she had [illegible] again [illegible] soon as she was [illegible] necessarily [illegible] session repeated [illegible] again [illegible] the session. She was sure now that [illegible] the first session. The [illegible] however [illegible] same way as [illegible] previous [illegible] excuses. [illegible] Presumably [illegible] was the [illegible] scent the matter as [illegible] there [illegible] it was [illegible] ever [illegible] never [illegible] however succeeded [illegible] seeing her. At last one evening, when there was a party [illegible] the house [illegible] garden. [illegible] however [illegible] What a pity [illegible] just [illegible] the first time [illegible] she [illegible] in the story [illegible] repulse [illegible] This however had been [illegible] because that she had [illegible] the greatest interest [illegible] she had [illegible] that night she had hardly been able to sleep [illegible] necessarily [illegible] ask [illegible] What [illegible] garden [illegible] what [illegible] been [illegible] mistress. What [illegible] What would have happened [illegible] she knew [illegible] answers [illegible] excitement lasted for several days.

We [illegible] press [illegible] She said [illegible] From [illegible]

[illegible] ral questions.

[illegible]

[illegible] ing.

was as well [illegible] the patient [illegible] spontaneously [illegible] that [illegible] already passed [illegible] these events [illegible] sexual [illegible] the part [illegible] Probably [illegible] escaping [illegible] unbearable sexual ideas, she transferred the [illegible] from this sphere to that of her educational methods. The mechanism [illegible] which is well known [illegible] has [illegible] morally [illegible] repressed [illegible] in one sphere [illegible] tries to compensate for these [illegible] in another sphere as if the same [illegible] were [illegible] these [illegible] compulsive [illegible] clearness and [illegible]ness. It therefore seems [illegible] that precisely these [illegible] concerning a past [illegible] sexual [illegible] Since there were [illegible] consciousness [illegible] obsessional ideas directly [illegible] by these stories, there were no special resistances present. Hence the stories were relatively [illegible]

I refrain from presenting the subsequent sessions [illegible] the patient [illegible] lessened [illegible] the absurdity of her stereotyped [illegible] the patient [illegible] spontaneously. Every [illegible] session [illegible] every [illegible] the patient [illegible] during the following [illegible] however, there [illegible] new [illegible] that tormented her.

The reminiscences of her time as governess were succeeded by a series of [illegible] stories that had served as [illegible] for conversation with the neighbour for whose death without the sacraments the patient reproached herself. The neighbour was a person about whose dubious past a number of rumours were current. The patient was a very decent girl and comes from a respectable family known to me, and in her own [illegible] pass herself and reproach [illegible] herself [illegible] There [illegible] stories [illegible] psychologically [illegible] she was [illegible] attracted by the interesting neighbour [illegible] be discussed [illegible] the patient and quite a [illegible] stories and [illegible] which I [illegible] repeat here [illegible] reproached herself. When the neighbour [illegible] suddenly [illegible] illness, the patient transferred the reproaches, which [illegible] were about her sexual [illegible] to the death [illegible]

[illegible] infects everything with her depravity.

[illegible] and passes

[illegible] *fremd Heimweh*. "fremd" is an adjective the literal translation of which ([illegible]nge") would be misleading. The noun has therefore to be used, although not strictly apposite.]

[illegible]

had immediately declined. She would very much like to get [illegible] sexual [illegible] nurse [illegible] I [illegible] comparison [illegible] had [illegible] afterwards [illegible] patient [illegible] what [illegible] The [illegible] have been constellated partly by this story.]

With great [illegible] she [illegible] girl sister [illegible] sexual matters [illegible] father [illegible] she [illegible] became pregnant and gave [illegible] sister [illegible] was she [illegible] deep aversion [illegible] imagined herself as [illegible] persons [illegible] this story [illegible] very plausible [illegible]

8 Of course, [illegible] complex [illegible] sexual [illegible] analysis [illegible] pressed [illegible]

[illegible] event (see Krafft-Ebing, *Psychopathia Sexualis*).

on all imaginable situations of sexual intercourse. Subjects [illegible] spoken of are sexually extraordinary [illegible]. In [illegible] she would become deeply interested [illegible] and [illegible] attempt at seduction. But [illegible] she was [illegible] [illegible] almost imaginable [illegible] females and [illegible] conversation [illegible] level of education and intelligence one would not have expected. The two last sessions were particularly distinguished in this respect. She produced the most extensive selection of most repulsive obscenities that she had occasionally heard in the street. What most [illegible] the narration of which I must be spared [illegible] were various abnormalities of sexual intercourse, e.g. [illegible] [illegible] [illegible] [illegible] with a huge Hungarian [illegible]. The number and the extreme vulgarity of these jokes appeared to me almost [illegible] in a [illegible] educated and decent lady. The phenomenon is, however, explained by the early perverted direction of the sexual [illegible] which was mainly concerned with [illegible] sexual practices [illegible] [illegible] of sexual intercourse. This complex [illegible] sexual act [illegible] determined [illegible] sexual [illegible] associations with [illegible] peculiar [illegible] [illegible] in this way the patient [illegible] sexual [illegible] [illegible] whether the gentleman is coming [illegible] [illegible] why she has [illegible] examining her employers [illegible] why she [illegible] [illegible] people etc. Her [illegible] and the peculiar pushing forward of the [illegible] show how the effect of the complex spreads in all directions. It is worth noting that she appears at each session in a different dress.

5. Being [illegible] sexual [illegible] [illegible] [illegible] [illegible] [illegible] repression of sexual [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] these [illegible] with the other [illegible] [illegible] repressed [illegible] [illegible] have a [illegible]

[illegible] personality [illegible] expressed [illegible] words. There are [illegible] any-thing of the other. This explains the peculiar disturbances of reproduction [illegible] the [illegible]. The [illegible] she has [illegible] things [illegible] asserted [illegible] the greatest [illegible]

But even [illegible] repressed [illegible] feeling [illegible] consciousness [illegible] less [illegible] personality [illegible] possesses [illegible] consciousness [illegible] somehow [illegible] repressed [illegible] causes [illegible] explain [illegible] away [illegible] phase [illegible] feels [illegible] persons [illegible] the feeling [illegible] she [illegible] seen [illegible] as [illegible] guilt [illegible] living [illegible] the [illegible] these people [illegible] sexuality as the [illegible] therefore expects them to feel equally guilty.

721 [illegible] associations [illegible] complex [illegible] analyses [illegible] suggested by the associations. The associations actually

served as signposts along the maze, never once going false, as in cases that at every stage threatened to put the analysis on the wrong track.

The analysis was interrupted every other day for three weeks and lasted one and a half hours at a time. Although at the end of the three weeks the patient had not yet achieved proper sleep and peace of mind, I discharged her and heard no more of her until the end of November. During the last days of November she suddenly appeared at my consulting hour and presented herself as cured. After the termination of the treatment she had slept very agitated for about four weeks. Sometimes she was tormented at night by her sexual images, sometimes by obsessive ideas. In particular the [illegible] the [illegible] and [illegible] gave [illegible] the [illegible] to tell her about the death scene of her mother. When the daughter told her again, as usual, that her mother had died peacefully, the patient suddenly became convinced that her mother had after all received the last sacraments. With this the obsession suddenly disappeared. Sleep returned and was only occasionally disturbed by sexual images.

What is to be thought about this happy ending of the treatment?

It is obvious that the daughter's words, which the patient had heard many times without any effect, was nothing but the vehicle for the real removal of the obsession. The actual change occurred at the beginning of the treatment, when the sexual images replaced the obsessional ideas. The confession of her sexual thoughts may have given considerable relief to the patient. But it seems unlikely that the cure can be ascribed entirely to the verbal expression of the repression. Pathological ideas can be definitely submerged only by a strong effort. People with obsessions and compulsions are weak; they are unable to keep their ideas in check. Treatment to increase their energy is therefore best for them. The best energy cures are, however, to force the patients with a certain relentlessness to unearth and expose to the light the images that consciousness finds unbearable. Not only is this a severe challenge to the patient's energy but also his consciousness begins to accept the existence of ideas hitherto repressed.

[illegible] Freud originally did.

[illegible] persistent amnesia.

SUMMARY

1. [illegible] the *causa morbi*, apart from any predisposition.

2. [illegible] facilitating and shortening Freud's psychoanalysis.

3. The association [illegible] experimental [illegible] manifestations of the pathogenic complexes.

THE PSYCHOLOGICAL DIAGNOSIS OF EVIDENCE

I

728 It is a matter of common knowledge that the evidence of witnesses [illegible] predictable [illegible] in legal [illegible] has rece[illegible] become [illegible]. Perhaps the most credit belongs to William Stern, whose extensive "Contributions to the Psychology of Evidence" [illegible] treasure-house [illegible] goal is a general [illegible] in [illegible] without experiment. The reports of Stern's experiments on legal evidence have gradually [illegible] became [illegible] necessary to deal with them in detail in this paper. In Stern's [illegible] main [illegible] investigations [illegible] evidence [illegible] examining magistrate [illegible] proposed [illegible]. The [illegible] here [illegible]

[illegible] Zeitschrift [illegible] Rascher, Zurich and Leipzig.

[illegible] "Psychoanalysis and Legal Evidence" (page [illegible])

[illegible] Beiträge zur Psychologie der Aussage, which Stern [illegible]

[illegible] psychological makeup of the witness.

728 [illegible] proceeding [illegible] stood even by the layman in psychology.

729 [illegible]

[illegible] "Psychometric Experiments" (1879).

[illegible] reflections of the purely psychological process of association. [illegible] 1883.

[illegible] "Über den assoziativen Verlauf der Vorstellungen" (1880).

[illegible] "Experimentelle Untersuchungen über Associationen" (1890).

[illegible] experiments [illegible] Sommer [illegible] operation.

[illegible] Aschaffenburg [illegible] experiments [illegible] Aschaffenburg [illegible] Psychiatric Clinic in Zurich [illegible] are due to [illegible]

732 One [illegible] before [illegible] These events dominated [illegible]

[illegible] Experiment" [illegible]

[illegible] "Experimentelle Studien über Assoziationen," 1896–1901.

[illegible] the "predominance of assonances" in cerebral exhaustion.

Jung and Riklin, "The Associations of Normal Subjects," supra.

at the [illegible] experiment [illegible] she were not [illegible] thing [illegible] were [illegible] -ed [illegible] this experience, as the examples show:

Stimulus-word	*Reaction*
to kiss	again and again
[illegible]	[illegible]
[illegible]	not now
nature	am I
to love	[illegible]
son	father and son
wild	mother (wild = furious)
tears	she now has
[illegible]	[illegible]
war	yes, if only there were
faith	I did not keep
once	and never again
miracle	would have to happen
blood	she is anaemic
choose	another one
to part	I need not
right	she has none
fond	I was of her
wool	a woman's dress
doubt	I was not
stranger	yes, now she is

[illegible] On [illegible] these [illegible] seen [illegible] [illegible] spheres [illegible] complex [illegible] complex [illegible]

[illegible] tional tone one has to [illegible]

[illegible] and behaviour is called a *constellation*.[13]

[illegible] *complex*.

[illegible] complexes.

There is [illegible] complexes [illegible] complexes [illegible] associations. [illegible] complexes [illegible] [illegible] exception [illegible] experiment [illegible] Others [illegible] associations [illegible] not thinking [illegible] in particular [illegible] [illegible] or is not thinking of anything in particular.[14]

[illegible]

---

[13] [illegible] Psychology (orig. 1899). Freud's "symptomatic behaviour" [illegible] the [illegible] thing.

[14] "The Reaction-time Ratio in the Association Experiment," supra.

As alre[illegible] [illegible] every [illegible] as [illegible] only as [illegible] the associations are [illegible] personal and [illegible] those that follow here:

to dance	not	to sing	beautiful
ill	not	pity	not at al[l]
[illegible]	[illegible]	[illegible]	[illegible]
needle	nail	people	religion
rich	father	stroke	abominable
tree	branches	unfair	atrocious

These [illegible] personal [illegible] earlier [illegible] On [illegible] respond[s] [illegible] very good [illegible] girl [illegible] marry [illegible] Jew[ish] [illegible] Jews [illegible] Jewish [illegible] postulations *abominable* and *atrocious*.

[illegible] contents of the reactions.

[illegible] says [illegible]

in answer to *detest* [illegible] Scarcely [illegible] a these points [illegible] much more numerous and objective [illegible] reactions which seem [illegible] e.g.:

to dance	music, dance-hall, ball, etc.
ill	disease, doctor, etc.
detest	respect, contempt, etc.
pity	for the poor, the sick, or compassion, etc.

The personal content of the reaction is therefore already a [illegible] complex. [illegible] striking [illegible] an elegant young [illegible] great [illegible] explanation [illegible] that he is a [illegible] first term. I could easily [illegible] examples, [illegible] is not necessary [illegible] even [illegible] them [illegible] is feasible [illegible] hide from [illegible] the unusual content of a reaction [illegible] there is something [illegible] This can be done even without getting information from the subject [illegible] words. If, for instance, an unmarriageable girl [illegible] *kiss* [illegible] guess [illegible] near at hand.

949 But this does not exhaust the possibilities of suspecting and proving the [illegible] complex, even without later information. Besides the content of the reaction we have another very fine means [illegible] complex [illegible] the reaction time. We always measure the time elapsing between pronouncing the stimulus word and the reaction with a [illegible] second stop-watch. At first sight one expects these times to [illegible] an apparently random fashion. Closer inspection, however, soon shows that very long reaction times nearly always occur at quite definite places. The following example shows which are the critical spots:

		(secs.)
head	hair	1.4
green	lawn	2.6
water	*deep*	5.0
to stab	knife	1.6
long	table	1.2
ship	*sinking*	3.4
to ask	to reply	1.6
wool	to knit	[illegible]
sulky	friendly	[illegible]

lake	*water*	40
ill	healthy	18
ink	black	12
to swim	*to be able to*	98

[illegible] subject.

[illegible] called the *reproduction method*.[18]

We [illegible] again.

---

[18] Experimental Observations on the Faculty of Memory [illegible]

stimulus-word	*reaction*	*reproduction*[illegible]
head	hair	+
green	lawn	+
water	*deep*	[illegible]
to stab	knife	+
long	table	+
ship	*sinking*	*steamer*
to ask	to reply	+
wool	to knit	+
[illegible]	friendly	+
lake	*water*	*blue*
[illegible]	beauty	+
ink	black	+
to swim	*to be able to*	*water*

747 The reproduction fails for *water*, *ship*, *lake* [illegible]

[illegible] cases

to stab	knife	1.6	
angel	pure	[illegible]	+
long	trunk	[illegible]	
ship	man	[illegible]	+
to plough	field	[illegible]	
wool	sheep	[illegible]	+
friendly	lovely	1.6	+
table	leg	[illegible]	chair

[illegible]

ask	answer		
the State	form (shape)	6.2	Switzerland
white	black		
pencil	pen		
lovable	dear		
glass	to love	4.6	to drink

[illegible]

[illegible]

[illegible]

lovable — dear
glass — to love

[illegible]

	water	(failure)[1]		+
2	to sting	bee	1.8	+
3	angel	[illegible]	42.0	(did not react at all as after [illegible])

---

[1] "Failure" means that the subject could not think of anything at all here.

4.	long	knife	5.0	(as 3)
5.	ship	steam	7.0	(as 3)
6.	to plough	head	4.8	garden

[illegible] can clearly be seen in the reaction-times.

[illegible]

[illegible] mental disorder, *dementia praecox*.

755 The latest application of our experiment was suggested by Wertheimer and Klein,[illegible] two pupils of the well-known crim-

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[illegible] Untersuchungen der Symptome [illegible]

[illegible] "[illegible]diagnostik" (1904). For further comment on this work see infra, Appendix, no. 5, n. 2.

[illegible] psychologist, Hans Gross, [illegible] the [illegible] the complex [illegible] experi[illegible] [illegible] has [illegible] This [illegible] helped [illegible] [illegible] everyone [illegible] appreciate [illegible] practical importance.

[illegible] the paper [illegible] general suggestions [illegible] paper" [illegible] Wurzburg. [illegible] set up as follows:

The subject was shown a picture [illegible] [illegible] subjects [illegible] recorded [illegible] [illegible] [illegible] In these cases a [illegible] complex [illegible] [illegible]

[illegible]

[illegible]

[illegible] results [illegible] Gross [illegible] Dr. [illegible] of Prague. What [illegible] these experiments [illegible] regard to its juridical application.

[illegible] I shall [illegible] that by William Stern.

[illegible] very interesting [illegible] point of view [illegible] suggestive [illegible] extension [illegible] regard to its [illegible] [illegible] ments suggested by Wertheimer and Klein.

[illegible] I [illegible] greatest [illegible]

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[1] "Zur psychologischen Tatbestandsdiagnostik" (1905), and "Zur Frage des Wahrnehmungsproblems" (1905).

[2] [illegible] 1905–6).

[3] "Die Assoziationsmethode im Strafprozess" (1906), p. 10.

[4] "Psychologische Tatbestandsdiagnostik" (1905–6), p. 145.

cases he [illegible] string [illegible] [illegible] association [illegible] take [illegible] We shall [illegible] the se-ond part of the paper.

[illegible] [illegible] discussion [illegible] Ra[illegible] [illegible] Association Experiment [illegible] given a detailed analysis [illegible] alternatives [illegible] psychological [illegible] [illegible] interpreting [illegible] also to any retrospective elucidation.

[illegible] [illegible] [illegible]

[illegible] on of Dreams (orig. 1900).

[illegible] "Psychologische Tatbestandsdiagnostik" (1906).

[illegible] when [illegible] discuss the [illegible] complexes [illegible] We [illegible] apply [illegible] guidance [illegible] Therefore I agree with Kraus when he foresees great [illegible] in applying the experiment in [illegible] practice [illegible] Kraus [illegible] But let us ask: can the examiner [illegible] right [illegible] any [illegible] web of my associations?

I [illegible] the [illegible] I [illegible] the apprehension [illegible] association [illegible] enlarged [illegible] were [illegible] remember [illegible] events. The experiment is simply [illegible] laws determining [illegible] the [illegible]

If we know these laws [illegible] we also know [illegible] association processes [illegible] Kraus [illegible] psychoanalysis [illegible] by the association experiment [illegible] can be seen [illegible] the patients [illegible] from our Clinic.[illegible]

[illegible] said elsewhere. The [illegible] this experiment [illegible] science [illegible] longer recognize [illegible]

[illegible] Riklin [illegible] "Die Symptome und Associationen eines Falles von Hysterie" (1905).

[illegible] "[illegible] Tatbestandsdiagnostik" (1905).

ers, [illegible] and [illegible] Freud's [illegible] they ha[illegible] spoken [illegible] least and [illegible] at almost [illegible] ments [illegible]

We [illegible] [illegible] pro[illegible] experiments showed [illegible] [illegible] perhaps does not [illegible] [illegible] taken from the [illegible] [illegible] interesting [illegible] the association [illegible] previous [illegible] actual criminal tasks.

These [illegible] must [illegible] acknowledged.

II

The [illegible] application of the association method [illegible] in which I was [illegible] as a doctor. Here is the history of the case.[10]

One evening in September [illegible] gentleman [illegible] agitated and asked [illegible] matter. He told me that [illegible] young [illegible] For several weeks he [illegible] noticed that [illegible] sums [illegible] had [illegible] missing from the [illegible] Although he [illegible] in many matters [illegible] at least [illegible] He reported the matter [illegible] that there was no evidence [illegible] against anyone. Recently there had been [illegible] changes among the servants [illegible] possible that one of the maids had [illegible] the money. Now [illegible] also [illegible] that his protégé might have stolen from him. If he knew that the young man was the thief [illegible] he could to prevent the police getting [illegible] in that case he would rather [illegible] himself [illegible]

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[9] See n. 15 supra.

[10] "Zur psychologischen Tatbestandsdiagnostik" (1905). [illegible] Psychological Diagnosis of Facts," Coll. Works, Vol. 1.

[illegible] were highly respectable [illegible] purpose [illegible] suggestion [illegible] and I suggested the association experiment [illegible] consented to the experiment.

Experimental Procedure

[illegible]

---

[33] The delinquent [illegible] comes from a religious family.

[34] German *klagen* has both meanings.

[35] German *arm* or *Arm* has both meanings.

[36] Prize means [illegible] he has stolen from his secretary.

[37] So many months in jail.

[illegible] therefore are those above 2.0

1	head	nose	2.0	+
2	green	blue	1.2	+
3.	water	air	1.6	blue
	to stab	paraf[illegible]	2.0	+
5.	murder	manslaughter	1.4	+
6.	long	short	1.8	+
7	five	six	1.4	+

[illegible] spect, as in this case

8.	*to give a present*[29]	gen- ge- rous[30]	2.0	to give
9.	wool	cloth	1.4	+

The [illegible] complex.

---

[28] The method of the "probable mean" [illegible] consists in [illegible] Reaction-time Ratio in the Association Experiment," supra.

[29] The [illegible] stimulus-words [illegible] the complex are [illegible] in each case.

[30] [illegible] tion was stammered. German *frei-freigebig*: free-freely giving.

The reaction itself is characterized by a slip of the tongue. The reaction time is [illegible] short and the reproduction [illegible] correct. No after-affect on the following association.

10. *watch*	mechanism	2.2	+
11. table	leg	1.8	wood

The second [illegible] impression [illegible] something [illegible] unusual. The reaction time is excessive. The [illegible] perseverating [illegible] suspected.

12. *to give*	*to steal*	2.6	+
13. chair	leg	2.0	+
14. *sulky*	morose	2.8	+

In [illegible] the complex is openly expressed [illegible] expressive [illegible] association. The perseverating reaction times are rather long. The reproduction is not disturbed.

15. *drawer*	wood	1.6	+
16. *sister*	brother	1.8	+
17. lake	water	1.4	+
18. ill	well	2.0	[illegible]

Here the obvious complex influence on [illegible] last words is apparent. The missing reproduction [illegible] something other than the [illegible] complex.

19. *burglary*	*theft*	1.8	+
20. to cook	—		
21. ink	paper	[illegible]	+

Here we have a [illegible] criterion of the complex [illegible] perseveration [illegible] was so strong that [illegible] the [illegible] reaction. The reaction time [illegible] is still very long.

22. evil	good	2.0	+
23. *writing-case*	paper	2.0	+
24. to swim	good—don't know	2.0	freely, doing well

---

[1] [Orig. *Mechanismus*, not a German word.]

[2] Cf. "The Reaction-time Ratio in the Association Experiment."

[3] The [illegible]

[illegible] several interfered [illegible] [illegible] [illegible] [illegible] persevering [illegible]

[illegible]	[illegible]	disgrace	1.8	+
[illegible]	[illegible]	black	1.4	+
[illegible]	[illegible]	water	1.6	+
[illegible]	*to threaten*		—	
[illegible]	*key*	to hole	2.6	+
[illegible]	rich	poor	1.2	+

[illegible] [illegible] express [illegible] [illegible] water [illegible] [illegible] and the reaction-time is excessive

31.	tree	green	1.2	+
32.	*to steal*	*to take*	2.4	+
33.	*board*	wood	2.8	+
34.	yellow	black	2.2	+

[illegible] [illegible] [illegible] excessive [illegible] [illegible] cate some slight perseveration from *board*

35.	mountain	[illegible]	1.8	+
36.	*to look for*	*to find*	1.6	+
37.	salt			+
38.	new	old	2.0	+

[illegible] [illegible] on the contrary

39.	*to lock up*	*to imprison*	2.6	to release
40.	to ride	river	2.0	+

[illegible] [illegible] [illegible] as [illegible] also [illegible] the reproduction [illegible] R [illegible] M[illegible]ing [illegible] [illegible] is [illegible] complex [illegible]

41.	*master key*	*key*	1.6	+
42.	stupid	intelligent	3.0	+

Ke[illegible], as an associative response to the complex [illegible] [illegible]. The [illegible] prolonged reaction [illegible] in R 42 is [illegible]

43.	exercise-book	book	1.8	+
44.	*to hide*	*to find*	2.0	+
45.	tooth	painful	1.4	+

To find is a frequent association [illegible] complex [illegible] response [illegible] [illegible] complex.

46.	right	false	2.2	+
47.	*thief*	*burglar*	4.6	criminal
48.	*to find*	*to steal*	2.6	to look for
49.	book			statute-book

[illegible] complex [illegible] not elaborate.

50.	*wrong*	right	1.2	+
51.	frog	water	2.2	tadpole
52.	to separate	tadpole	2.6	+

[illegible] several [illegible] appears [illegible] R 51 [illegible] expressions [illegible] complex [illegible] From 47 [illegible] the subject [illegible] restless [illegible] in his pockets. This shows that the [illegible] disturbances in the associations as well as other symptoms are [illegible] expressions of the total effect.

53	hunger	thirst	1.4	
54	*shirt*	white	2.0	clot
55	child	small	1.8	+

Shirt seems to have made a hit

56.	*to watch*	*to miss*	1.8	*self-control*[39]

The [illegible] reproduction. The [illegible] patient [illegible] should have [illegible]

57	*necktie*	cloth	1.6	+
58	dim	dark	1.6	+
59	*trunk*	to pack[40]		+
60	*to hit*	*to miss*	2.8	certain
61	statute	book	2.8	+
62	lovable	faithful	1.8	+
63	*to catch*	*to miss*	2.4	to get hold of
64	to quarrel	to love	3.4	

From this series we see the part that [illegible] plays. It occurs only in response to complex stimulus-words [illegible] also [illegible] reproduction. It seems to [illegible] words that not infrequently a [illegible] experience. What is hidden [illegible] it seems to be the [illegible] of a surprise. The words relating to the [illegible] appear to be of little influence

65.	*police*	*thief*	3.6	+
66.	large	small	1.6	+
67	*to moan [accuse]*	to sigh	1.6	+
68	to paint	beautiful	3.8	+
69.	*chest of drawers*[41]	comfortable	2.8	+
70.	old	new	1.2	+

Police is a [illegible] translated see [illegible] a long reaction time [illegible] the hit has thus been parried

---

[39] [illegible]

[40] [illegible] down of the stop-watch

[41] German *Kommode* [illegible] comfortable, as *kommode*

	flower	heath	2.0	+
72.	*arm* [*poor*]	leg	4.6	+
73.	wardrobe	cupboard	2.0	+
74.	wild	brook	2.0	+
75.	family	*sister*	2.2	+
76.	to wash	clean	1.8	+
77.	cow	bull	1.8	+
78.	strange	*to watch*	3.2	+

In this sequence *poor* (because of the shift) has no arresting effect. The choice of *sister*, however, for *family*, which has not been intended to be a complex-word, does not seem to be coincidental. *To watch* as an association to *strange* is here perhaps the latent thought behind it that someone must have watched and reported her, so that now even a stranger himself knows of the deeds. Of course, the suspicion is not proof; one has, however, to keep such trains of thought in mind in the interpretation.

79.	*to arrest*	*thief*	3.4	+
80.	story-telling	fairy-tale	2.0	+
81.	manners	custom	1.8	+
82.	narrow	broad	1.8	+

To arrest was a direct hit. Then there was a slowly declining charge (reaction times).

83.	brother	*sister*	1.4	+
84.	*jail*	*prison*	4.2	+
85.	stork	child	2.2	+
86.	*false* (cannot understand the stimulus-word at first, then)	*rich*	4.0	+

Rich is a peculiar reaction to *false*. If, however, a subject has stolen a considerable sum from his benefactor, then the response is no longer quite incomprehensible.

87.	*anxiety*	*pity*	2.4	
88.	beer	wine	1.6	+

It was easy for the subject to persuade himself that his anxiety about giving himself away in the experiment was silly.

89. fire	shot	2.0	+
90. dirty	clean	1.4	+
91. door	trap	1.6	+
92. *linen-cupboard*	wood	3.0	+
93. hay	grass	1.6	+

I[illegible] appears [illegible] rea[illegible]g

94. quiet	calm	2.0	+
95. mocking	irony	1.6	+
96. *to punish*	*to release*	2.4	+

An obvious complex-constellation

97. *month*	week	1.8	+
98. coloured	green	6.2	+

M[illegible] a strong affect

99. *criminal*	*thief*	[illegible]	murderer
100. to talk	to be silent	[illegible]	to speak

The [illegible] experiment appeared [illegible] me that I [illegible] point [illegible] The [illegible] sitting [illegible] suddenly [illegible] and [illegible] The [illegible] that seemed [illegible] The [illegible] tears [illegible] confessed.

Thus the experiment was a complete success.

5 This [illegible] keep in [illegible] a sensitive young [illegible] has had [illegible] charges [illegible] in this way made the diagnosis [illegible] far weaker [illegible] have been less [illegible] Another [illegible] reacted [illegible] words and [illegible]

[illegible] mutually [illegible] sentences [illegible] being [illegible] type [illegible] as possible [illegible] complexes [illegible] lacking.

Not only [illegible] success [illegible] also [illegible] equally [illegible] as we [illegible] The [illegible] complexes [illegible] complexes [illegible] There are [illegible] language. [illegible] necessary [illegible] complex [illegible] caused by the rarity of the stimulus-word.[14]

The [illegible] complex [illegible] are [illegible] so far as they demand more [illegible] Many people [illegible] because [illegible] appear [illegible] particularly [illegible] easily embarrassed. It may therefore [illegible] be assumed that complex-characteristics may appear [illegible] have been aroused purely because of these [illegible] The [illegible] case is easily imagined [illegible] means [illegible] complex stimulus-words [illegible] complex [illegible] suspected or expected complex [illegible] we are looking. Such a case can give rise to [illegible] serious misinterpretations. Finally, dis[illegible] group [illegible] of the complex [illegible] whether the [illegible] another complex interferes with the expected one.

[illegible] In the face of these difficulties [illegible] has to be [illegible] admitted that one [illegible] cred [illegible] ards are [illegible] ely [illegible] small [illegible] devoted doubt [illegible] existence [illegible] to exclude the influence [illegible] feeling [illegible] case [illegible] some [illegible] was [illegible] instances [illegible] in these experiments are [illegible] that [illegible] carefully [illegible] case [illegible] (See [illegible])

---

[14] See Wehrlin, "The Associations of Imbeciles and Idiots."

[15] [illegible] words [illegible] "The Reaction-time Ratio in the Association Experiment."

9 [illegible] as [illegible] is an educated [illegible] was closely acquainted. The [illegible] language [illegible] the [illegible] correct [illegible] knew [illegible] meaning [illegible] was [illegible] the latter [illegible] experiment [illegible] them [illegible] exactly [illegible] must [illegible] that [illegible] in terms of *his* probable mean time

Mean time of	*Secs*
Culprit	2.0
Informed	1.4
Uninvolved	1.8

O[illegible] inferences [illegible] these figures ha[illegible] oal significance only.

780. For the sake of [illegible] I have [illegible] reactions and [illegible] of the controls.

8 [illegible] presentation [illegible] informed [illegible] the mean.

[illegible] and are [illegible] uninvolved [illegible] presentation [illegible] present [illegible] period [illegible] secs [illegible] very long [illegible] here [illegible] extended reaction [illegible] the same [illegible] him. The t[illegible] informed is [illegible] The post-critical [illegible] are [illegible] reproduced [illegible] as [illegible] We [illegible] them are [illegible] uninvolved [illegible] time is very s[illegible] that perseveration may be assumed. F[illegible]

[illegible]	[illegible]	R.T.	Rep	[illegible]	R.T.	Rep	[illegible]	R.T.	Rep
[illegible]	[illegible]			[illegible]	1.6	+	[illegible]		+
[illegible]	[illegible]		+	[illegible]	0.8	+	[illegible]	1.3	+
[illegible]	[illegible]	[illegible]	[illegible]	stop	1.0	+	[illegible]		+
[illegible]	[illegible]			knife	1.4	+	[illegible]		+
[illegible]	[illegible]	3	+	dress	1.0	+	[illegible]		+
[illegible]	[illegible]			[illegible]	0.8	+	short	0.2	wide
	[illegible]	4	+	[illegible]	0.8	+	[illegible]	4	+
[illegible] proverb	[illegible]			to give	1.2	+	[illegible]		+
[illegible]	[illegible]	1.4	+	[illegible]			sheep	5	+
[illegible]	[illegible]			[illegible]	6				+
[illegible]	leg	1.6	good	[illegible]			[illegible]		cold
[illegible]	[illegible]	2.6	+	to take			[illegible] a person	7	+
[illegible]	[illegible]			[illegible]			seat	2.4	big
[illegible]	[illegible]	2.8	+	[illegible]			cheeky	2.6	+
[illegible]	[illegible]	6	+	[illegible]			[illegible] of drawers	1.2	+
[illegible]	[illegible]	8	+	mother			brother	1.4	+
[illegible]	[illegible]	4	+	[illegible]			river	1.8	dry
[illegible]	wall			[illegible]			[illegible]	1.4	+
[illegible]	[illegible]	8	+	[illegible]			[illegible]	2	+
[illegible]				[illegible]			[illegible]		+
[illegible]	[illegible]	2.6	+	paper			[illegible]	2.6	[illegible]
[illegible]	good		+	good			good	1.4	+
[illegible]	[illegible]			[illegible]			envelope	2.6	+
[illegible]	[illegible] know		[illegible] doing [illegible]	[illegible]			[illegible]	1.2	+
	disgrace			[illegible]			garden	5.8	+
[illegible]	[illegible]			[illegible]		+	[illegible]	5	
[illegible]	[illegible]		+	[illegible]		[illegible]	[illegible]		
[illegible]			+	home		+	[illegible]	2.6	
[illegible]	[illegible]		+	[illegible]			[illegible]	8	+
[illegible]	[illegible]		+	[illegible]		+	[illegible]	6	+
[illegible]	[illegible]		+	[illegible]		+	[illegible]	4	[illegible]
[illegible]	[illegible]		+	carpet			to punish	8	bad
[illegible]	wood		+	wood			[illegible]	8	[illegible]
[illegible]	back		+	[illegible]		+	[illegible]	2.8	+
[illegible]	high		+	[illegible]			[illegible]	2.0	[illegible]
[illegible]	to find		+	to find			[illegible]	1.0	
[illegible]			+	[illegible]			pepper	8	
[illegible]	oil		+	[illegible]			[illegible]	1.2	
[illegible]	[illegible]		[illegible]	[illegible]			[illegible]	1.8	
to ride	[illegible]		+	to drive			to fish		
[illegible]	[illegible]		+	[illegible]			thief	2.0	
[illegible]	[illegible]		+	[illegible]			[illegible]	1.0	
[illegible]	[illegible]		+	[illegible]			[illegible]	2.8	
[illegible]	[illegible]		+	to pay			[illegible]	1.2	
[illegible]	[illegible]		+	[illegible]			[illegible]	1.8	
[illegible]	[illegible]		+	[illegible]			[illegible]	1.8	
[illegible]	vinegar		[illegible]	[illegible]			[illegible]	1.8	
[illegible]	[illegible]			[illegible]			[illegible]	3.1	[illegible]

* [illegible] which [illegible] a resemblance [illegible] the opposite [illegible] to the sense [illegible]

the Examiner on the other hand, setting up house perhaps, [illegible] at present. He has already been [illegible] with the question of [illegible]. The feeling-toned background for the furniture-complex is his fiancée.

[illegible] gives [illegible] for the Examiner [illegible] moreover, the perseveration [illegible] is increased. We learn that he desires [illegible] evening, his waiting period, which is very unpleasant for him.

[illegible] produces the reaction [illegible] the Culprit. The association [illegible] happens to be a very [illegible] association [illegible] not mean very much, even for the Culprit. One could, however, easily be misled by it.

10–12. These sequences are very [illegible] causes the same response from [illegible] the Culprit [illegible] the longest reaction time.

[illegible] The reaction [illegible] are [illegible] ever sudden [illegible] has [illegible] the Examiner [illegible] controls.

2[illegible] produces disproportionately long reaction times. [illegible] Therefore the [illegible] here. The analysis [illegible] the influence of a complex in the [illegible]. Perhaps the [illegible] the word was mainly responsible.

2[illegible] the controls [illegible] the Culprit.

28 [illegible] has a special effect on the Examiner, but not nearly as much as on the Culprit.

[illegible] word complex-words.

42 [illegible] reveals strong complex [illegible] In the [illegible] complex [illegible] from his reactions [illegible] from [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49. drink			[illegible] book	cover	.5	+	to read	.6	pupil
50. wrong	right	1.0	+	right (correct)	10.8	+	right (correct)	.8	+
[illegible]			[illegible]	[illegible]		+	[illegible]	[illegible]	+
to separate	tadpole	5.6	+	to know	1.8	+	to combine	8	+
danger	[illegible]	4	+	[illegible]	13.8	+	thirst	.2	+
[illegible]	white	2.5	cloth	[illegible]	1.8	+	to dress	1.8	+
child	small	1.8	+	small	8.0	+	mother	.6	work
to watch	to miss	1.8	debate	[illegible]	1.4	+	to return	5.4	+
[illegible]	cloth	1.6	+	few	1.2	+	collar	0.4	+
[illegible]	dark	1.5	+	clear	1.4	+	bright	1.4	+
trunk	to pack	[illegible]	+	key	1.4	+	to lock	1.4	+
to hit	to miss	1.8	certain	to find	2.5	+	to shoot	1.4	+
[illegible]	[illegible]	1.8	+	law	1.2	+	choice	4.0	+
invisible	faith	1.8	+	clear	0.8	+	[illegible]	1.5	+
to catch	to miss	2.4	to get [illegible]	chance	2.2	+	thief	4.0	+
64 to quarrel	to love	3..		to argue	8	+	to fight	1.4	+
65 police	thief	4.6	+	soldier	.4	+	crime	3.8	offence
66 large	small	6	+	small	0.4	+	king	1.8	+
67 to mourn "[illegible]"	to sigh	1.0	+	to weep	.8		law court	3.0	judge
68 [illegible]	beautiful	5.8	+	colour	6	+	artist	3.0	+
69 chest of	comfortable	5.8	+	drawer	.8	+	[illegible]	3.8	+
70 old	new	8	+	young	6.8	+	young	1.0	+
flower	[illegible]	5.0	+	blossom	.8	+	garden	3.0	+
arm (poor)	leg	.8	+	rich	6.8	+	rich	1.4	+
wardrobe	cupboard	3.0	+	[illegible]	.4	+	clothing	4.6	[illegible]
[illegible]	drink	5.0	+	[illegible]	1	+	[illegible]	2.2	+
family	[illegible]	0.0	+	party	8.5	+	house	4.0	+
76 to wash	clean	8	+	to comb	1.5	+	[illegible]	.6	+
77 cow	[illegible]	.8	+	ox	.4	+	milk	.4	+
78 strange	[illegible]	5.0	+	[illegible]	.4	+	native	.8	+
79 to arrest	thief	5.4	+	[illegible]	1.6	+	criminal	.8	+
80 story-telling	fairytale	2.0	+	story	1.0	+	story	2	+
81 murderer	[illegible]	1.8	+	[illegible]	1.4	+	[illegible]	.8	+
82 narrow	broad	1.6	+	wide	1.2	+	broad	.2	+
83 brother	sister	1.4	+	sister	1.0	+	sister	.6	+
84 free	[illegible]	4.0	+	freedom	1.2	thief	[illegible]	4.8	thief
85 work	[illegible]	2.0	+	cloud	1.4	+	[illegible]	1.0	+
86 false	[illegible]	[illegible]	+	true	1.4	+	honest	.8	+
87 [illegible]	[illegible]	2.4	+	greed	1.2	+	[illegible]	1.4	+
88 [illegible]	wide	1.6	+	[illegible]	1.2	+	[illegible]	.6	+
89 line	short	2.0	+	[illegible]	1.0	+	[illegible]	.8	+
90 dirty	clean	.4	+	[illegible]	1.0	+	[illegible]	2	+
91 door	[illegible]	1.0	+	[illegible]	1.2	+	house	1.0	+
92 [illegible]	wood	4.0	+	does not know the word			[illegible]	.8	+
93 hay	grass	6	+	straw	6	+	straw	1.2	+
94 quiet	calm	2.0	+	calm	1.2	+	calm	1.0	+
95 [illegible]	[illegible]	8	+	[illegible]	1.0	+	gay	5.2	disgrace
96 to punish	[illegible]	2.4	+	[illegible]	6	+	offence	2.2	criminal
97 month	week	8	(	January	2	+	year	.8	+
			+	[illegible]	1.2	+	[illegible]	4.2	+
98 [illegible]	thief	1.2	murderer	[illegible]	.4	+	[illegible]	5.8	murderer
99 to talk	to be silent	0.8	to speak	[illegible]	0	+	to speak	.2	+

[illegible]

[illegible] considers [illegible] as a punishment.

[illegible] examples [illegible] test [illegible] are even [illegible] taken as [illegible] complexes [illegible] complexes [illegible] is the great question.

39. The strongest [illegible] the Cul[illegible] long [illegible] The [illegible] against [illegible] the perseveration [illegible]

40. [illegible] strong [illegible] perseveration.

41. [illegible] produces very [illegible] complexes [illegible] evident [illegible] complexes [illegible] expression [illegible] Uninvolved [illegible] complex [illegible] position [illegible] It is, however, remarkable that in this [illegible] words relating to [illegible] complexes [illegible] perseveration [illegible] Uninvolved also corresponds to this.

42. [illegible] acts in the same way, distinguishing [illegible] Culprits [illegible] only by a [illegible] perseveration.

43. [illegible] is also [illegible] distinguish [illegible] complexes [illegible]

45. [illegible] the strongest effect on the Culp[illegible] also complexes.

48. Again [illegible] releases a [illegible] reminiscence of the Uninvolved which confuses the result.

50. wrong and 54. *short* are uncertain.

56. [illegible] releases [illegible] complex [illegible] in the Uninvolved, thus distorting the result.

57. *necktie* and 59. *trunk* are uncertain.

60. [illegible] the strongest effect on the Culprit [illegible] very [illegible] was particularly [illegible] complex [illegible] secret love affair interferes here.

67. *to moan* [*accuse*] is uncertain.

In [illegible] the [illegible] is [illegible] and [illegible] more [illegible] (Culprit [illegible]). Yet this reaction may easily be [illegible] as a means of masking the complex. In strongly [illegible] complexes, e.g. in hysteria, such diversions are the rule.

[illegible] result [illegible] release the strongest reaction [illegible] the Culprit.

[illegible] strongly [illegible] the Culprit.

[illegible] *[illegible]* [illegible] The [illegible] the complex of the [illegible] perseveration.

69. The effect of *criminal* is not clear.

[illegible] The result of our control experiment is depressing. Only a few complex-symptoms can be seen in the critical places [illegible] also [illegible] the stimulus-words [illegible] the [illegible] complex. This brings before us a fundamental weakness of the experiment [illegible] stimulus-words can have. One can hardly imagine how many associations both innocent and criminal such words can arouse. [illegible] the [illegible] purpose [illegible] the range of these possibilities [illegible] experiment [illegible]. We can [illegible] this goal by composing as many stimulus-words as possible and by making those that are as specialized as possible as critical stimuli. A test with [illegible] reactions [illegible] unmanageable.

[illegible] But one is bound to ask [illegible] to accuse the young man of the theft [illegible] certain state of affairs. Above all it must be stressed that an [illegible] there exists something [illegible] paper [illegible] to express [illegible] experiment [illegible] however [illegible] there [illegible] angle [illegible] evidence [illegible] can [illegible] considered [illegible] ing [illegible] al [illegible] there [illegible] the [illegible] res [illegible] we [illegible] does not [illegible] and [illegible] ing statistical methods. Let us [illegible] consider the average [illegible] the reaction-times.

[illegible] For [illegible] reasons [illegible] I [illegible] here we take the arithmetical mean.[47]

Mean for stimulus-words	*Culprit*	*Informed*	*Uninformed*
neutral	1.9	1.0	1.0
critical	2.8	1.5	2.5
post-critical	3.8	1.4	1.8

Reduced [illegible] the [illegible] the mean [illegible] of the C[illegible] [illegible] is [illegible] as shown [illegible] Graph A [illegible]

From Graph A it can be seen that the Culprit is quite differ[illegible] mean [illegible] ing and [illegible] passes [illegible] the Culprit's [illegible] critical [illegible] stronger than [illegible] and [illegible] perseverated [illegible] greater intensity. [illegible] mean [illegible] Informed [illegible] corresponds [illegible] the C[illegible] post-[illegible] mean [illegible] Informed [illegible] complex [illegible] ing. F[illegible] complex [illegible] the experiment. [illegible] in the Unin[illegible] as we have seen [illegible] complex [illegible] question [illegible] complex [illegible] mean of the [illegible] have exceeded the [illegible] mean [illegible] however, stems from the fact that [illegible] words together comprise [illegible] less than [illegible] words. For this reason alone [illegible] words are very [illegible] to arouse the [illegible] nected complexes.

This graph also shows [illegible] the mere knowledge of the

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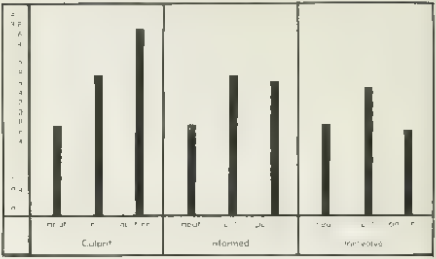
[47] The reasons are given in detail in "The Reaction-time Ratio in the Association Experiment."



Graph A. Mean Values of Reaction-Times

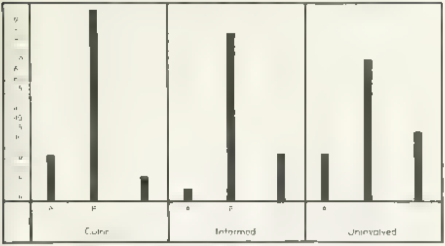
complex-characteristics [illegible]. In spite of all difficulties, however, the graph shows considerable material indicating the Culprit.

883 As we have seen, [illegible] reproductions are also among the complex-symptoms. The Culprit reproduced [illegible] per cent of the reactions [illegible], the Informed [illegible] per cent, the Uninvolved 21 per cent [see Graph B].

884 As Graph B shows, the Culprit made mistakes in not less than 90 per cent of the reproductions of the critical and post-critical responses, the Informed in 80 per cent, and the Uninvolved in 71 per cent.

885 Here again we see the same [illegible] weight of evidence in the Culprit, although the figures for the controls are also unexpectedly high.

We have here, however, to consider that the [illegible] of the Informed as [illegible] the Culprit is [illegible] [illegible]



[illegible]

Graph B Incorrect Reproductions

[illegible] The [illegible] are reactions [illegible] stimulus-words that may [illegible] testing [illegible] We [illegible] expect [illegible] Here we [illegible] take [illegible] from this point of [illegible] In the graphs I have always emphasized the [illegible] As can be seen, I have [illegible] the source [illegible] experi[illegible] complex [illegible] For the [illegible] complexes [illegible] of the Informed [illegible] per cent [illegible] per cent. [illegible] the figure for the Culprit is the biggest [illegible] does not prove very much.

[illegible] The [illegible] that the scene of the [illegible] was somewhat [illegible] described [illegible] experiment [illegible] need not always be so. On the contrary, the scene [illegible] special [illegible] Here [illegible] or a large number of complex-[illegible] as [illegible] it would appear [illegible] the [illegible] where the Culprit would [illegible] complex constellations [illegible] experience shows. That [illegible] happen [illegible] instances. [illegible] can already be seen from Gross's and Wertheimer's experiments.

793 In summarizing, I must point out that the Culprit[illegible] [illegible] the [illegible] aspects of complex-symptoms and that [illegible] the diagnosis [illegible] Had the association method not become a most [illegible] diagnostic aid for psychopathology, making it possible to get access to pathological complexes and had it not acquired [illegible] experience [illegible] I should not have ventured [illegible] diagnosis. It was, however, the analogies with psychopathology [illegible] I am therefore [illegible] convinced [illegible] and [illegible] interesting [illegible] expectations of success in the psychological diagnosis of [illegible] I am not sorry, however [illegible] have been [illegible] in the position of giving a warning against [illegible] I am going [illegible] many fine psychological [illegible] investigation [illegible] easily be brought into discredit by hasty failures. The association method [illegible] which [illegible] experts, and one has [illegible] dearly [illegible] mistakes [illegible] is not [illegible] As the [illegible] stands at present, one must not expect too much [illegible] but it has [illegible] possibilities [illegible] be foreseen. The present article is meant not only as a warning but also as an encouragement [illegible] the association method, which is one of the most [illegible] psychology.[40]

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[40] The last sentence was omitted in the 1906 version.

ASSOCIATION, DREAM, AND HYSTERICAL SYMPTOM

I. The Associations

[illegible] the nature [illegible] association [illegible] hysteria [illegible] expressed [illegible] further investigations. The subject of this research is the following case

[illegible]

[illegible] *Association* [pp. 354-95. See supra, par. [illegible]]

[illegible] the Phenomena of Association in Hysteria" 1908 [illegible] At last [illegible]

[illegible] ation Was admitted in the autumn of 1905

[illegible]

[illegible] of *fire* then everything is *ablaze*

[illegible]

[illegible] does no regular work, [illegible] She shows [illegible] The patient [illegible]

[illegible] The long duration of the illness and the [illegible] characteristic [illegible] In considering the [illegible] present condition I cannot be assured that [illegible] Meige-Feindel tic.[1]

For the sake of [illegible] I am now going [illegible] association experiments that I carried out with the patient. The patient [illegible] treatment from October [illegible] to December 21 [illegible] The experiments were made during this period. [illegible] influence [illegible] experiment. [illegible] for any length of time.

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[1] See Meige and Feindel, *Tics and Their Treatment* [illegible] 1902.

THE ASSOCIATION TESTS

Test I

June 29, 11 a.m. With reproduction test

Stimulus word	*Reaction*	*Reaction-time (in ⅕ secs.)*	*Reproduction*
1. head	ache	6	
2. green	[illegible]	33	
3. water			
4. to sting	bee	9	
5. *angel* (*Engel*)	court (*Hof*)[3a]	105	—
6. *long*	knife	65	
7. *ship*	steamship	35	
8. *to plough*	field	21	garden
9. wool	to knit	75	
10. friendly	-ness	11	
11. table	leg	30	
12. to question		—	
13. state			
14. stubborn	stubborn person	40	
15. stalk	flower-stalk	14	
16. to dance	dance-floor	10	
17. lake	Lake Zurich	29	
18. sick	—		
19. pride	concert	19	
20. to cook	cookery school	13	
21. ink	ink-pot	9	
22. bad	badness	39	
23. pin	pincushion	10	
24. to swim	swimming-school	45	
25. *travel*	travelling-rug	60	
26. blue	Blue Street	35	
27. bread	breadless (unemployed)	20	
28. *to threaten*	punishment	60	to punish
29. lamp	lampshade	11	
30. rich	riches	21	
31. tree	fruit-tree	23	
32. to sing	singsong	16	
33. pity	regret	35	

[3a] [See supra, par. 655, n. 9.]

	Stimulus word	*Reaction*	*Reaction-time (in ⅕ secs.)*	*Reproduction*
34.	yellow	yolk	26	
35.	mountain	Mount [illegible]	29	
36.	to play	chess	16	
37.	salt	salt-cellar	18	
38.	new	Neumünster	15	
39.	morals	morality	46	
40.	[illegible]	[illegible]	18	
41.	*wall*	wall-paper	12	–
42.	silly	silliness	45	–
43.	exercise-book (*Heft*)	school-book (*Schulheft*)	15	
44.	to despise	–	–	
45.	*tooth*	eye-tooth	15	–
46.	*right*	to make right	25	–
47.	people	People's Press	34	
48.	*to stink*	jackdaw	50	
49.	book	school-book	15	
50.	unjust		–	
51.	frog	tree-frog	25	
52.	to separate (*Scheiden*)	divorce (*Ehescheidung*)	8	
53.	hunger	to eat	19	
54.	white	snow	18	
55.	cattle	herd of cattle	22	
56.	to attend	attend on	30	
57.	pencil	pencil-holder	31	
58.	dull	–	–	
59.	plum	plum jam	66	
60.	to hit	–		
61.	law		–	
62.	love	unloving	15	
63.	glass	water-glass	8	
64.	*to argue*	to quarrel	23	–
65.	goat	goat's milk	12	
66.	grand	grandeur		
67.	potato	potato-flour	[illegible]	
68.	to paint	oil-painting	21	
69.	part	part-payment	26	

	Stimulus-word	*Reaction*	*Reaction time (in ⅕ secs.)*	*Reproduction*
70.	old (*alt*)	Altstetten	[illegible]	
71.	[illegible]	[illegible] of [illegible]	[illegible]	
72.	[illegible]	[illegible]	[illegible]	
73.	[illegible]	[illegible]	[illegible]	
74.	wild	wild duck	[illegible]	
75.	family	family dinner	[illegible]	
76.	to wash			
77.	cow	cow's milk	[illegible]	
78.	guest	guest-book	[illegible]	
79.	luck	good luck	[illegible]	
80.	to tell	tale	[illegible]	
81.	manners	training in [illegible]	[illegible]	
82.	[illegible]			
83.	brother			
84.	shame (*Schade*)	shame-joy (*Schadenfreude*)	10	
85.	stork	stork's nest	26	
86.	false	falsehood	97	
87.	anxiety	feeling of anxiety	[illegible]	
88.	to kiss	sister's kiss	65	
89.	fire	[illegible] fire	[illegible]	
90.	dirty	—		
91.	door	lock	21	
92.	to elect	election for the Co-op	55	
93.	hay	hay-cart	19	
94.	still	rest	39	
95.	[illegible]	[illegible]	[illegible]	[illegible] cheap
96.	to sleep	sleeplessness	[illegible]	
97.	month	monthly meeting	[illegible]	
98.	coloured			
99.	dog	faithful dog	[illegible]	
100.	to talk (*reden*)	consultation (*Sprechstunde*)	[illegible]	

96 [illegible] test was given during the [illegible]. Let us first look at the associations [illegible] statistical angle. I [illegible] myself [illegible] the associations into internal and external associations, sound reactions, [illegible] associations. This rough classification suffices for [illegible] purposes.[4] The patient produced:

Internal associations	16%
External associations	60
Sound reactions	[illegible]
Failures	
Indirect associations	[illegible]
Incorrect reproductions	[illegible]

[illegible] External associations form an exceptionally large [illegible]. The patient [illegible]; she has only [illegible] an elementary [illegible] education [illegible] from school. A glance at the reactions shows that the external associations consist [illegible] patterns of word[illegible]. [illegible] we also find a number of word-complements [illegible]. The large number of failures is striking. [illegible] the average figures for educated women:[5]

Average for Educated Women

Internal associations	[illegible]
External associations	58
Sound reactions	[illegible]
Failures	[illegible]

we see that the patient's figures show a [illegible] mode of association; they approximate to the figures of [illegible] distraction experiments. Average [illegible] distraction experiment with 100 metronome beats per minute:

[illegible]

Internal associations	20.8
External associations	62.8
Sound reactions	13.2
Failures	0.4

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[4] Cf. "The Associations of Normal Subjects," supra, pars. 20ff.

[5] Ibid., Table 6.

[illegible] I [illegible] might think that the attention was distracted during the experiment. This leads [illegible] of the case [illegible] No external causes [illegible] and [illegible] before [illegible] degree interference must be considered. We [illegible] search, because the patient is already [illegible] makes every interest [illegible] the [illegible] beginning [illegible] character [illegible] her symptoms [illegible] a small [illegible] the association experiment [illegible] type. She [illegible] hardly allows the meaning of the stimulus-word [illegible] the word [illegible] feeling [illegible] associat[illegible] word. She [illegible] only [illegible] an ear [illegible] words as if [illegible] away from her [illegible] bring [illegible] her [illegible] the experiment [illegible] not interesting [illegible] compar[illegible] sometimes [illegible] happens [illegible] her tongue. It is also [illegible] when [illegible] word has [illegible] charged associations, as we shall see [illegible] As soon as she realizes that the [illegible] at her [illegible] from [illegible] Here [illegible] the meaning [illegible] interest is [illegible] by the complex [illegible] the environment.[4]

[illegible] The probable mean [illegible] of the experiment [illegible] seconds [illegible] is very high. We [illegible] are [illegible] normal [illegible]

[illegible] As [illegible] Psychoanalysis and Association Experiments [illegible] the patient [illegible] impossible [illegible] appear [illegible] The repres-

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[4] A [illegible]

[illegible] arising from the pathogenic complex was at that time still too strong.

[illegible] again. [illegible] hospital.

Test II

October 5, 5 p.m.

1.	head	head-ache	[illegible]
2.	green		
3.	water	[illegible]	[illegible]
4.	to sing	[illegible]	[illegible]
5.	angel	–	
6.	long	long-winded	2.2
7.	ship	–	–
8.	to plough		–
9.	wool	cotton-wool	[illegible]
10.	friendly	friendliness	[illegible]
11.	table	table-mate	[illegible]
12.	to question	question-mark	6.6
13.	state	–	–
14.	stubborn (*trotzig*)	stubborn person (*Trotzkopf*)	3.2
15.	stalk	flower-stalk	6.[illegible]
16.	to dance	dance-boot	4.0
17.	water	water-lily	9.0
18.	sick	sickly	3.[illegible]
19.	pride		
20.	to cook		
21.	ink	ink-blotter	4.6
22.	bad	badly	–
23.	pin	pincushion	[illegible]
24.	to swim	swimming-pool	[illegible]
25.	travel		–
26.	[illegible]		–
27.	bread		
28.	to threaten	–	

[illegible] Therefore it was not possible to make a reproduction test. An analysis was equally [illegible] possible. No [illegible] points emerge from the test. Above all, one is again struck by the present character of the associations; there is nothing [illegible] was [illegible] there are [illegible] failures. Expressed in percentages there are:

Tests	*I*	*II*
Internal associations	16%	0%
External associations	60	46.4
Sound reactions	9	14.2
Failures	14	39.2
Indirect associations	1	0

804 This is quite an unusual picture. The patient's behaviour during the test was characteristic. She held her head in both hands, and from time to time she sighed because of the unbearable heat in her head caused by the heated room [illegible]. The patient is unaware that she experiences [illegible] as pleasantly [illegible] in summer while she finds the same temperature unbearable in winter. The operative factor [illegible] the air temperature [illegible]. During the test she obviously was completely absorbed by the complex. It is not surprising that there are [illegible] experiment. In this we have a distraction phenomenon again, but to a considerably higher degree than in the first test. The concentration [illegible] decidedly increased. The distraction of her attention, or her attention is even more than previously directed towards the complex, so that she participates less in the experiment. The direct attention towards the experiment is obviously very strenuous for her, so that she is already tired after 28 reactions and has to abandon the test. Her available energy has been reduced to a minimum. This is already shown in the enormous number of failures, which have almost [illegible] compared with the first test. She again has at some [illegible] words that do not [illegible] a commonplace combination of words. But these failures can simply be due to the [illegible] e.g. [illegible] here are the [illegible] etc. [illegible] there are [illegible] etc. For *travel*, *travelling bag* [illegible] the long reaction times be accounted for by [illegible] difficulties, e.g. [illegible] with which there are many common combinations. We must also consider the

possibility of these disturbances being caused by [illegible] may be due to unconscious inhibitions arising from the pathogenic complex underlying the illness.

864 The probable time mean of the test is 3.2 seconds, the figures taken as 2/10 secs. though usually we work with [illegible] secs. The probable mean is therefore very high.

Test III

October 9, 5 p.m. With reproduction test

1.	lamp	lamp-chimney	1.8	
2.	rich	riches	1.8	
3.	tree	tree-trunk	1.4	
4.	*to sing*	*singsong*	3.2	*operetta*
5.	*pity*		–	*pitiful*
6.	yellow	golden-yellow	4.2	
7.	mountain	mountain range	4.8	
8.	*to play (spielen)*	*one-act (Singspiel)*	6.6	*[illegible] (Spielball)*
9.	salt	salt-cellar	6.8	
10.	new	new moon	3.0	
11.	*morals*			*morality*
12.	to ride	riding-school	3.[illegible]	
13.	wall	wall-painting	4.6	
14.	silly	silliness	4.0	
15.	exercise-book (*Heft*)	school-book (*Schulheft*)	2.2	
16.	*to despise*	–		*despicable*
17.	tooth	toothache	[illegible]	
18.	right	–	–	
19.	people (*Volk*)	fair (*Volksfest*)	2.0	
20.	to stink		–	
21.	book	school-book	3.8	
22.	unjust	–	–	
23.	frog	tree-frog	2.4	
24.	*to separate (scheiden)*			*divorce (Ehescheidung)*
25.	hunger	hunger-pangs	[illegible]	
26.	white	snow-white	[illegible]	
27.	cattle	herd of cattle	[illegible]	
28.	to attend	attention	[illegible]	
29.	pencil	pencil-holder	[illegible]	
30.	dull	–	–	

31.	plum		—
32.	to hit	—	—

805 This test shows some changes compared with the previous ones. The result expressed in percentages is as follows:

Tests	*II*	*III*
Internal associations	0.0%	3.1%
External associations	46.4	59.3
Sound-reactions	14.2	6.2
Failures	39.2	31.2
Incorrect reproductions		18.7

806 Here we have one more distraction experiment. The probable time-mean is:

Test I	*Test II*	*Test III*
5.2 secs.	5.2 secs.	4.6 secs.

807 Compared with the second test there is some shortening of the reaction-time, which is probably to be explained mainly by the relative reduction in the failures. This result may perhaps permit the conclusion that the patient had pulled herself together a little. This seems also to express itself in the fact that, in spite of the early failure in the association test, she was willing to do the reproduction test. This test also went fairly reasonably, further than the previous one (28, 42). The number of sound-reactions has not inconsiderably decreased to the benefit of the external and internal associations. This allows us to infer some improvement in her concentration.

Test III

October 17, 5 p.m. With reproduction test

1.	law	against the law	5.0
2.	love	unloving	3.0
3.	glass	glass-cupboard	2.0
4.	to argue		—
5.	goat	goat's milk	2.8
6.	green	green grass	4.8
7.	potato	potato-field	5.6
8.	to paint	painter's studio	5.4
9.	part	partner	3.0
10.	old	old town	9.6
11.	flower	floweret	2.4
12.	to strike		—

13.	cupboard	linen-cupboard	5.6
14.	wild	—	—
15.	family	family dinner	4.0
16.	to wash	—	—
17.	cow	cow's milk	3.0
18.	priest	priest book	4
19.	luck	good luck	2.8
20.	to tell	—	—
21.	manners	training in manners	2.8
22.	[illegible]		
23.	brother	—	
24.	shame (*Schade*)	shame-joy (*Schadenfreude*)	3.6
25.	stork (stimulus-word first misunderstood—then failure)		
26.	false	falsehood	8.2
27.	anxiety	feeling of anxiety	3.0
28.	to kiss	sister's kiss	4.0
29.	fire	fire-blackened	6.8
30.	dirty	dirty marks	7.0
31.	door	trap-door	4.8
32.	to choose		—
33.	hay		—
34.	still		—

[illegible] This test was taken [illegible] the [illegible] [illegible] was [illegible] somewhat [illegible] those [illegible] that are [illegible] typical in the course of hysteria. The test certainly [illegible] looks like a distraction experiment. Apart from the [illegible] perseveration of *kiss* (*sister's kiss*), the patient, so to speak, never bothers about the meaning of the stimulus-word but contents herself with the perception of the outer word-form; [illegible] there were [illegible] mistakes in reproduction. The test evidently [illegible] reactions more than the previous one (32, 34). In percentages:

Test	*II*	*III*	*IV*
Internal associations	0.0%	3.1%	0.0%
External associations	46.4	59.3	58.8
Sound reactions	14.2	6.2	5.8
Failures	39.2	31.2	35.3
Incorrect reproductions	—	18.7	0

The probable time-mean is:

Tests	*II*	*III*	*IV*
	5.8 secs.	4.6 secs.	5.4 secs.

Thus we again have an increase in the reaction-time which we may ascribe to the unfavourable attitude of the patient at that moment. The lack of incorrect reproductions may [illegible] the small number of reactions. [illegible] accidental, but it is also possible that at this time the patient remembered the reactions in order not to make any mistakes with the reproduction later on.

Test V

November 9, 5 p.m. With reproduction test

1.	ridiculous		—	
2.	*to sleep*	*rest*	1.8	*tired*
3.	*month*	—		*time*
4.	coloured	Negro	6.3	
5.	dog	domestic animal	8.4	
6.	to talk	to tell a story	4.8	
7.	coal	to iron	4.0	
8.	moderate	—		
9.	song	tune	5.6	
10.	to assume	facts	10.0	
11.	*pain*	*ill*	5.2	*illness*
12.	lazy	to work	5.4	
13.	moon	—		
14.	to laugh	merry		
15.	coffee	breakfast	2.2	
16.	[illegible]	[illegible]	4.6	
17.	air	warm	5.6	
18.	to frighten	anxiety	7.6	
19.	plate	to eat	7.0	
20.	[illegible]	*to sleep*	4.4	*bed*
21.	[illegible]	*to damage*	[illegible]	[illegible]
22.	to fly	—		
23.	eye		—	
24.	strong	vigorous	2.6	
25.	fruit	—	—	
[illegible]	[illegible]	*industrious*	3.0	*to work*
		ship	7.0	

28. modest	content	6.4	
29. ground (does not understand stimulus-word at first)	sand	10.2	
30. to whistle	sound	6.4	
31. purpose	cause	3.4	
32. *hot*	yes, yes, in here	4.0	*light*
33. hand	limb	3.0	
34. *to wake*	*awake*	3.0	*to get up*
35. apple	don't know (*Affeltrangen place,*)	13.6	
36. naughty		–	
37. mouth	teeth	7.2	
38. to drink	liquid	4.4	
39. *bed*	*tired*	7.2	*to sleep*
40. *pretty*	*beautiful*	4.0	*?*
41. *danger*		–	*terrible*
42. to visit			
43. *worker*	*occupation*	6.4	*to be occupied*
44. high	mountain	4.6	
45. axe	wood	9.4	
46. to [illegible]	[illegible] wall	[illegible]	
47. path	a walk	5.0	
48. round	sphere	2.4	
49. *blood*	–	–	*red*
50. devoted		–	
51. precaution	to watch		
52. *funny*	*story*	4.8	*to laugh*
53. market	to shop	3.0	
54. *to forget*	*thought*	5.4	*story*
55. [illegible]	[illegible]	[illegible]	
56. free	free-spoken	6.6	
57. carriage	to ride	8.2	
58. to eat	appetite	[illegible]	
59. insolence	–	–	
60. fast	to walk	2.4	
61. chimney	smoke	2.6	
62. enjoy	pleasure	4.2	
63. parson	sermon	2.4	
64. light	weight	3.6	
65. neck	slim	7.0	

66. to wish	present	[illegible]	
[illegible] [illegible]	[illegible]	8.8	
[illegible] [illegible]	red	[illegible]	
[illegible] [illegible]	rubber	[illegible]	
[illegible] [illegible]	beautiful	9.4	?
[illegible] [illegible]	tool	[illegible]	
[illegible] [illegible]	temperature	[illegible]	
73. greed	craving for money	[illegible]	
[illegible] [illegible]			
75. blanket	—	—	
76. good	—	—	
77. leaf	—		
78. to torture	illness	6.0	
79. station	to go on a journey	4.8	

880 This test shows [illegible] a different association type [illegible] with the previous tests. It is as if the patient had suddenly found a different [illegible]. The percentages are as [illegible]:

Tests	*II*	*III*	*IV*	*V*
Internal associations	0%	3.1%	2.9%	56.9%
External associations	46.4	50.4	58.8	28.[illegible]
Sound reactions	14.2	6.2	5.8	1.2
Failures	40.2	41.2	33.3	21.5
Indirect associations	0	[illegible]	0	1.[illegible]
Incorrect reproductions		8.7	0	21.4

881 [illegible] association tests [illegible] we have given here in figures, we see [illegible] patient's [illegible] a more normal character. She now gives [illegible] word and thus produces a preponderance of internal associations.[8]

882 [illegible] parisons [illegible] so that for instance [illegible] does not exceed the normal mean. Only the number of failures is still abnormally high; it has, however, considerably decreased compared with [illegible] tests. The patient's perseveration [illegible] creased remarkably [illegible] that this test lasts longer by 45 reactions

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[7] This is not actually the case however, because already in Test I the patient showed the beginnings of a less superficial association type.

[8] Thus the patient now shows a reaction-type that we not infrequently see in [illegible] very few sound reactions.

than the previous one. The time mean is [illegible] seconds, as in the previous test. The reaction time is thus still very long.

814 This test was started about three weeks after the previous one. In the meantime the treatment had already improved the patient's condition. The [illegible] may also be [illegible] the improvement of the associations, [illegible]. In the previous tests we mainly stressed the lack of entering into the meaning of the stimulus word, the [illegible] preponderance of external associations, the enormous number of failures and the rapid [illegible] as [illegible] signs and as an abnormal [illegible] on the patient's interest in the complex. The improvement in the present test is particularly expressed from the psychological point of view in the fact that the patient again takes a more or less sufficient [illegible] interest in the external processes. The treatment is resolving her possession by the complex. Her personality is gradually being freed from the tyranny of the complex and is again able to assimilate the material; in other words, to adapt herself again to the environment. As signs of hysteria the following are, however, still present: the enormous number of failures and long reaction times and other complex-indicators; the signs of a passing emotionality which is, as we know, the psychological foundation of hysteria.

Test VI

December [illegible], [illegible] p.m. With reproduction test.

815 The test [illegible] second [illegible] test [illegible]. It was [illegible] not because of the patient's [illegible] but because I considered the number of reactions enough [illegible]. I shall describe and discuss the test in individual sections.

816 I should like to remark at the outset that the probable mean of this test is [illegible] seconds. It is thus [illegible] lower than the preceding ones. In spite of this apparent similarity, however, the temporal aspects are in their averages entirely different from those in the previous tests. For the purpose of discussing these relations I am splitting each test into sequences of six to ten reactions and for each sequence I have calculated the arithmetical [illegible] the means.[1] I have arranged the means thus obtained in curves below.

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[1] The figures were calculated at 20 secs. each.

Test I. The curve fluctuates very much. Near the beginning there is a group of relatively short times which after various fluctuations rises higher and higher. Towards the end there are very strong increases in reaction-times which, however, are again somewhat shortened, but do not fall to the initial level. The curve gives the impression that the patient has noticed the excessive times and then once more pulled herself together for a few reactions. Test I was performed at the beginning of the consultation. As reported in the case history, the patient afterwards rapidly deteriorated. This deterioration shows in the curve of [illegible]

Test II. Here the curve starts rather high and, after pulling itself together for a short time, it rapidly collapses.

Test III. The curve begins low. The patient had, as she told me at the time, made a resolution to take great pains this time to answer quickly. The carefully gathered energy, however, does not last; the reaction-times increase progressively until they become very long. The observation of this weakness probably induced the patient to a little spurt at the end which, however, exhausts the remains of her energy.

Test IV. The curve starts a little higher than last time; the patient was, as we mentioned before, indisposed psychologically at the time of this test. Here too there is a steady increase in the reaction-times.

Tests I–IV mainly yielded external associations and clang-reactions. We can already see from the curves that this mode of association is linked with rapidly increasing reaction-times.

Test V. Here the curve begins very high (perhaps to be explained by the fact that the patient was still discouraged by the previous tests and therefore had some resistance against the experiment). It decreases quickly, however, and then, after a stronger fluctuation, stays near the centre, though rising slightly. Then there is a more or less longer-lasting final spurt which, however, ends in a quick and steady increase of the reaction-times. The final spurt has completely exhausted the patient's energy.

Test VI. In this last test (after two months' treatment) the curve begins at a medium height and then drops quickly to a very low level which is fairly well maintained during the whole test without any appreciable [illegible]. Towards the end it shows a tendency to rise. Test V shows at least in its middle parts a tendency towards steadiness which is then fully realized in Test VI. Tests V and VI are, however, those that show a different mode of association. Thus the difference appears to go with the tendency to steadiness in the reaction-times. At the same time a very low level is reached and maintained in Test VI.

[illegible] should like to [illegible] [illegible] [illegible] Test VI [illegible] not cause effect in reducing the reaction-times. Tests II–IV made one rather suspect the contrary. According to Kraepelin's findings, a [illegible] is actually to be expected because of a fixation of the reactions. In Test VI, however, [illegible] reactions [illegible]

[illegible] As [illegible] the discussion [illegible] the [illegible] increased reaction-times [illegible] a [illegible] tendency towards fatigue [illegible], with a complete inability to [illegible] [illegible] the experiment [illegible] [illegible] like a [illegible] weakness of energy [illegible] [illegible] In particular [illegible] Tests I, V and VI [illegible] in tests I, III and V [illegible] Tests I and VI the progressive fatigue is clearly marked. This shows that in certain cases the association experiment also gives information on energy and fatigue.

Analysis of the Associations Obtained in Test VI

[illegible] Test V [illegible] Test VI [illegible]

Tests	I		II–IV (V)		VI	
1 head	-ache	1.8	headache	1.6	[illegible]	1.4
2 green	grip	6.5	—		[illegible]	
3 water	—		water-works	2.8	deep	
4 to sting	bee	1.8	stinging nettle	2.0	bee	
5 angel	court	32.0 [?]*	—			
6 long	knife	9.0 [?]	long-handled	[illegible]	[illegible]	
7 ship	steamship	7.0 [?]	—		[illegible]	
8 to plough	field	4.0 [gesture]			[illegible] to give	[illegible]

* [illegible] reproduction [illegible]

9. wool	to knit	15.0	cotton-wool	2.2	(stimulus-word not understood) to knit	0.2
10. *friendly*	-ness	2.2	friendliness	3.0	–	[people]
11. table	(does not at first understand stimulus-word, then) leg	6.0	table-mate	2.2	room	9.0

[illegible] has [illegible] meaning [illegible] refers are [illegible] we find a [illegible] resemblance [illegible] character [illegible] that we not infrequently find [illegible] expressions [illegible] meant to make light of the complex.

[illegible] appears [illegible] to belong [illegible] feeling-tone.

[illegible] complex [illegible] The patient [illegible] religious [illegible] She [illegible] then during the [illegible] [illegible] towards [illegible] complex [illegible] We [illegible] even [illegible] The patient has an [illegible] severe [illegible] expected [illegible] remember [illegible] young [illegible] when they were [illegible]

[illegible] last [illegible] There was [illegible] an amnesic island.[11]

[illegible] was substituted [illegible] complex [illegible] patient [illegible] produce [illegible]

[illegible] totally [illegible] of me [illegible] always [illegible] seems [illegible] that the patient was somehow skipping over

---

[11] Cf. "Experimental Observations on the Faculty of Memory," [illegible]

[illegible]

VI

[illegible] therefore increase at *friendly*

---

[13] Transference [*Transposition*] to the doctor: see Freud, "Fragment of an Analysis of a Case of Hysteria" (orig. 1905).

[14] *Jokes and Their Relation to the Unconscious* (orig. 1905), p. 170.

Tests	*I*		*II–IV*		*VI*	
13. to question	—		question-mark	6.6	answer	5.8
5. state	—				state-house	[illegible].6
4. stubborn (*trotzig*)	stubborn person (of [illegible])	8.0	stubborn person	5.2	character	6.0
[illegible]	flower-stick	[illegible]	flower-stick	[illegible]	flower-stick	[illegible]6
6. to dance	dance-floor	2.0	dance-floor	4.0	ball	5.4
lake (water)	Lake Zurich	5.8	[illegible]	[illegible]	[illegible]	[illegible]
18. [illegible]			[illegible]	5	[illegible]	[illegible] vers
19. pride	conceit	3.6			yearning nostalgia	7.4
20. to cook	cookery school	2.6			kitchen	3.6
[illegible] ink	ink-pot	[illegible]8	ink-blotter	4.6	to write	2.0

[illegible] involve the subsequent reaction as well.

Analysis: [illegible] thought the doctor was asking me a lot. I know [illegible] I certainly [illegible] emphasis [illegible] which was so striking contrast to her usual [illegible] Then she suddenly [illegible] expressing anger [illegible] It is impossible [illegible] have been [illegible] she did not [illegible] for a young girl [illegible] meaning of the word *question* [illegible] She thinks [illegible] she never [illegible] Thus we [illegible] indication of the presence of [illegible]

[illegible] Particularly [illegible] we may suspect the subject of the experiment [illegible] however, the reference to the ego becomes [illegible] probably [illegible] stronger [illegible] compared with the [illegible] reactions.

Analysis: "People [illegible] for instance [illegible] when I was a child. Once I was rather [illegible] go to school any more. I was [illegible] years [illegible] From then on I did not go to school."

[illegible] could no longer go [illegible]

[illegible] *bad*: she therefore may well have erotic ideas

[illegible] desire

Tests	I		II–IV		VI	
22 bad	badness	7.8	bad's	9.8	*disobedient*	7.6
23 pin	pincushion	2.0	pincushion	2.4	*china work*	7.8
24 to swim	swimming school	9.0	swimming pool	4.0	public baths	6.4
25 *travel*	travelling	12.0 ?	–		railway	4.8
26 blue	Blue street	7.0	–		colour	1.8
27 bread	breadless (unemployed)	4.0	–		baker	2.0
28 *to threaten*	(does not understand stimulus word) *punishment*	12.0	to punish		to expect, vast	3.6

Here ends Test II

[illegible] ball.]

Test I.I

29. lamp	lampshade	2.2	lamp-chimney	1.8	light	4.0
30. rich	riches	4.2	riches	2.8	money	6.8
31. tree	fruit-tree	4.6	tree-trunk	4.4	garden	3.6
32. to sing	singsong	3.8	singsong	5.2	concert	5.2

[illegible] seems to express the complex best.

[illegible] I was often bad—and disobedient at school, etc.

[illegible] complex [illegible]

[illegible] Moreover [illegible] she would like to [illegible] laziness. [illegible] has a critical effect [illegible] the erotic complexes of women.

There are complex-characteristics in 25 *[illegible]*

[illegible] I would like to [illegible] long [illegible] "Honeymoons are spent in Italy, too."

28. Test VI *to expect*

[illegible] I [illegible] expect [illegible] angrily to suppress. Thus the same reaction again as to *demand* and *yearning*.

30. *rich*

[illegible] I should like to be rich [illegible] in a personal [illegible] to the doctor.

Tests	*I*		*II–IV*		*VI*	
53. pity	regret	7.0	[pitying]		–	
54. yellow	yolk	4.8	golden-yellow	3.2	canary bird	[illegible]
55. mountain	Mount [illegible]	4.6	mountain-range	4.8	mountain range	10.8

36. *to play*	chess	3.2	operetta	6.6	[ball]	ball	4.8
37. salt	salt-cellar	2.4	salt-cellar	6.8		to cook	[illegible]
38. new	Neumünster	3.0	new moon	5.8		house	[illegible]
39. morals	morality	9.2	—		[morality]	*hope happy*	[illegible]
40. to ride	riding [illegible]	3.6	riding school	3.0		path	[illegible]
41. *wall*	wallpaper	2.4	walk [illegible]	4.6		room	5.8
42. *silly*	silliness	9.0	silliness	4.0		sensible	7.2
43. exercise book (*Heft*)	[illegible] book [illegible]	3.0	[illegible] book	[illegible]		[illegible] book [illegible]	[illegible]

Ad 36: *play*.

Analysis. I cannot imagine at all what *playing* [illegible] perhaps [illegible] the [illegible] [illegible] example [illegible] [illegible] and [illegible] [illegible] listed [illegible] also [illegible] [illegible] express [illegible] [illegible] of great significance [illegible] the history of the patient's illness. [illegible] not [illegible] to go [illegible] [illegible] the [illegible] whole [illegible] must have some [illegible] awareness of [illegible] may perhaps be [illegible] strong resistance.

36: *morals*.

Analysis. [illegible] does not want to know [illegible] [illegible] [illegible] [illegible] also [illegible] [illegible] course [illegible] even [illegible] stand [illegible]

The patient speaks [illegible] as [illegible] was of no importance [illegible] [illegible] the test [illegible] the patient was [illegible] because I [illegible] taken her [illegible] seen [illegible] completely repressed [illegible] [illegible] reason [illegible] complex [illegible] [illegible] erotic [illegible] [illegible] [illegible] symptom [illegible] [illegible] I [illegible] is probably the reason why [illegible] sexually repressed.

48: *new*.

Analysis. [illegible] lady [illegible] *house* [illegible] the patient [illegible] liking. She [illegible] the lady particularly [illegible] she was [illegible] her [illegible] [illegible] seems to be [illegible] The analysis meets with great resistances [illegible]

[illegible] to this complex at 60.

42 [illegible] energy, and for being therefore [illegible]

Tests	I		II–IV			VI	
44. *to despise*	–				[despicable]	people	[illegible]
45. *tooth*	*eye-tooth*	3.0 ?	toothache	8.0		mouth	[illegible]
46. *right*	*to make right*	5.0 ?	–			to check (it off)	[illegible]
47. people (*Volk*)	People's Press [illegible]	4.6	fair (*Volksfest*)	4.0		crowd	5.[illegible]
48. *to stink*	*jackdaw*	10.0 ?	–			to the cemetery	4.[illegible]
49. book	school-book	3.0	school-book	3.8		to read	[illegible]
50. [illegible]	–					wedding church	[illegible]
51. frog	tree-frog	3.0	tree-frog	3.4		green	[illegible]
52. *to separate* (*scheiden*)	divorce (*Ehescheidung*)	6.4			[divorce]	divorce	4
53. hunger	to eat	3.8	hunger-pangs	5.0		dog to bark	[illegible]
54. white	snow	3.8	snow-white	3.0		snow	[illegible]
55. cattle	herd of cattle	6.4	herd of cattle	4.2		herd of cattle	[illegible]

44. *to despise.* [illegible] always [illegible] despicable. We know [illegible] connected with this.

[illegible]

[illegible] Is there perhaps [illegible] in her activities that is not or was not "right"?

58 (Test VI) *dog* has a very long reaction-time (6.8 secs.)

[illegible] dogs [illegible] an erotic significance (see below).

	Tests	*I*		*II III*		*IV*	
[illegible]	to attend	attention	6.0	attention	2.4	attention	2.8
	pencil	pencil-holder	6.2	pencil-holder	6.6	black	5
58	[illegible]	–		–		weather	[illegible]
	plum	plum jam	8.3			[illegible] artificial	8.[illegible]
60	to hit					marksman	3

End of Test III

Test II

61	law			against the law	5.0	against the law	5.4
62	love	unloving	3.0	unloving	3.6	child	[illegible]
63	glass	water-glass	1.6	glass cupboard	2.0	bottle	8.2
64	*to argue*	*to quarrel*	4.6 ?	–		[illegible]	2.8
65	goat	goat's milk	2.4	goat's milk	2.8	fire house	2.8
66	grand	grandeur	3.0	grand city	4.8	ocean	
	potato	potato-flour	4.0	potato-field	5.6	dish (food)	6.8

57 *pencil*.

[illegible] It may thus only [illegible] One might perhaps suspect a masturbation-complex or another sexual fantasy. During the whole time of the treatment I avoided the [illegible] towards the end [illegible] I [illegible] Test VI [illegible] dominant,

---

* This apparently refers to a performance or calculation test devised by Kraepelin [illegible] The patient has to add pairs of digits and write the sum down in an exercise-book, in which the experimenter [illegible] performance. Dr. C. A. Meier has kindly supplied this information.

[illegible] Tests I [illegible] took place [illegible] complexes were [illegible] back [illegible] complex [illegible] they may not [illegible]

[illegible] effect than the former superficial *unloving*

Tests	*I*		*II–IV*		*VI*	
to paint	oil painting	4.8	painter's studio	5.4	picture	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
old (adj.)	Altstetten	9.8	old town	6.6	old man	[illegible]
flower	bunch of flowers	10.2	floweret	2.4	garden	[illegible]
to strike	*hammer-stroke*	6.0	—		to sit tired	2.2
cupboard	linen-cupboard	4.2	linen-cupboard	5.6	room	
wild	wild duck	4.2	—		lion	[illegible]
family	family dinner	5.2	family dinner	4.0	large	5.2
to wash			—		kitchen	6
cow	cow's milk	2.0	cow's milk	4.2	man pater familias	8.8
guest	guest-book	6.0	guest-book	3.4	spare room	[illegible]
luck	good luck	10.6	good luck	2.8	joy	5.4
to tell	story	3.0	·		story	[illegible]

69 (Test VI) *birth difficult*

[illegible] the complex. The [illegible] because [illegible] charges and therefore [illegible] be [illegible] a certain [illegible] [illegible] pleasure [illegible] expect[illegible] feeling [illegible] This [illegible] the construction of the syndrome

76 *to wash* with its conspicuous disturbances can have been co-

[illegible] analyses of the dreams, [illegible]

[illegible] man *paterfamilias*, 8.8 secs.

Tests	*I*		*III*		*IV*	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
82. narrow	—				space	9.6
83. brother			—		siblings	7.8
84. shame *(Schade)*	shame-joy *Schadenfreude*	[illegible]	shame-joy	5.6	loss	8.2
85. stork	stork's [illegible]	5.2	does not understand meaning of word then		belly	7.4
86. false	false coin	7.4	falsehood	8.2	people	3.2
87. anxiety	feeling of [illegible]	4.0	feeling [illegible]	5.0	trembling	4.8
88. to kiss	sister's kiss	[illegible]	sister's kiss	[illegible]	sister's kiss	5.8
89. fire	[illegible]	[illegible]	[illegible] blackened	[illegible]	[illegible]	[illegible]
90. dirty			dirty marks	5.0	street	3.8
91. door	lock	4.2	trap-door	4.8	lock	3.0
92. to elect	election for [illegible]	11.0	—			
93. hay	hay-cart	9.8	—		barn	[illegible]
94. stall	rest	7.8			cattle	6.8

End of Test IV

Test V

95. ridicule	ridiculous price	8.0			to laugh	[illegible]
96. *to sleep*	sleeplessness	3.4	rest	1.8 [tired	night	6.8
97. *month*	monthly meeting	3.0	—	[time	long	6.4
[illegible]			[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
100. to talk *(reden)*	consultation *(Sprechstunde)*	13.4	to tell a story	4.8	people	6.2

[illegible] sexual [illegible]

[illegible]

[illegible] well known) as well as to the preceding *accident*.

[illegible] carelessly [illegible] clearly shows [illegible] perhaps [illegible] dream analysis [illegible]

[illegible] shows [illegible] expression [illegible] The response [illegible] which she often sees houses ablaze.

[illegible] provokes [illegible] *Coup.*

Analysis. One can clearly [illegible] things [illegible] someone else [illegible] and embarrassment. We [illegible] girl associates with "choosing", it is actually a "wo[illegible]" [illegible] namely someone who compensates for [illegible] This probably explains [illegible] because [illegible] *par excellence*.

[illegible] often excites the [illegible] person [illegible] complex disturbance.

Summary of the Analysis

8 The association experiment [illegible] analytical investigation [illegible] its results have given us [illegible] however [illegible] different [illegible] The analysis had to struggle with special difficulties because very few reactions [illegible] the three series appear normal. There is an [illegible] experimental evidence [illegible] complexes [illegible] complexes have the last word. The analysis [illegible] only [illegible] great difficulties in getting at the [illegible] the numerous [illegible] characteristic [illegible] more complicated by having [illegible] from the patient. Frequently the patient [illegible] generalities and her [illegible] through her mind. Interpretations that the patient [illegible] are rare. [illegible] much [illegible] that [illegible] she were asked to evaluate its [illegible] significance [illegible] would never know whether

[illegible]

[illegible] they meet

[illegible] also a school complex present

[illegible]

[illegible] plentiful as one could wish

II. The Dreams

[illegible] They are [illegible] [illegible] expressions [illegible] [illegible] the patient [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] her [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] Fire, too, means love.

[illegible] marked [illegible] [illegible] My [illegible] dreams [illegible] [illegible] November. In the second half of November the following dreams occurred:

[illegible] 27. [illegible] [illegible] general [illegible] statement had to stand.

[illegible] [illegible] [illegible] [illegible]

[illegible] the material.

[illegible]

[illegible] strong inhibitions, one has therefore to [illegible]

[illegible] this place? "Eleven years. [illegible]

[illegible]

[illegible] SECOND PART OF [illegible]

[illegible] This again is about mating

[illegible]

[illegible] (Orig. 1905)

[illegible] the starting point of the analysis.

[illegible]

---

[10] We have shown that in a state of distraction of attention the indirect associa- [illegible] have been increased so that the patient reacted by a slip of the [illegible] Associations of Normal Subjects.

[illegible] tiger at times. They have large [illegible] the back [illegible] she have [illegible] cars [illegible] very [illegible] dream. [illegible] sort [illegible] refers [illegible] first dream [illegible] express [illegible] related [illegible] dream [illegible] the entire [illegible] December [illegible] content of the second dream.

[illegible] THE DREAM: [illegible] *to eat.*

[illegible] this dream [illegible] the pace [illegible] this dream [illegible]

[illegible] the preceding dream.

[illegible]

[illegible] one without any special significance.

[illegible]

[illegible] whether this person is a man or a woman."

[illegible]

[illegible] well presume that she is the indistinct figure [illegible]

[illegible]

---

11 [A medieval tribunal that sat in secret.]

[illegible]

The lunatic asylum

[illegible]

The sexual complex

[illegible]

[illegible] mother.

[illegible] before I began the analysis. She had dreamt again:

[illegible]

[illegible] Here [illegible]

[illegible] by the [illegible] relation to the doctor

[illegible] The patient therefore finds the "room" occupied [illegible] yesterday's [illegible] always does what Miss L. is doing. Thus she also watches the [illegible]

[illegible] determined. Th[illegible] p[illegible] explained [illegible] as [illegible] here we meet it again later on.

The [illegible] of the [illegible] dream [illegible] express[illegible] [illegible] sexual [illegible] patient [illegible] Miss L. [illegible] [illegible] less [illegible] [illegible]. It replaces the [illegible] corresponding [illegible] [illegible] Miss [illegible] her place and "occupy" the room.

Th[illegible] [illegible] it remained active.

When I [illegible] explained the [illegible] [illegible] said [illegible] knew the things that are dragged out of me here."

Th[illegible] is interwo[illegible] [illegible] danger [illegible] lying down [illegible] sexual need or tenderness from [illegible] from her childlike relation to the mother.

396 SIXTH DREAM. Dec. [illegible] "At [illegible] I am [illegible] for the first time by going through all [illegible] him."

397 *Analysis.* [illegible] the patient [illegible] longer in treatment [illegible] she hopes [illegible] her.

Second [illegible]. The patient says this is only a fragment [illegible] she cannot [illegible] what [illegible]. It is [illegible] the dream [illegible] represents [illegible] yesterday [illegible]. The patient [illegible] as [illegible] I asked her [illegible] father never [illegible] when the patient [illegible] she was here for such a short time and [illegible] was [illegible]

[illegible]

[illegible] *[illegible] for me to eat now, I can just as well eat later*

[illegible] a sexual relation [illegible] she may get [illegible] She must therefore remain ill.

[illegible] shows [illegible] with the role of the sick child that needs [illegible] in accordance with the doctor's advice, [illegible] She therefore stands between [illegible] one puts something into the mouth.

[illegible]

[illegible]

snakes. The [illegible] of [illegible] The [illegible] indicates the displacement from below upwards.

It is therefore not unlikely [illegible] with marriage [illegible] sterilities and [illegible] experience [illegible]. Moreover, a sexual [illegible] was to be expected [illegible] not satisfied [illegible] experience which she [illegible] old [illegible] was [illegible] Perhaps [illegible] will be revealed to [illegible] by her dreams. Perhaps [illegible] connection [illegible] compulsion. The [illegible] eight days [illegible] she knows [illegible] Dream [illegible] I tried, as always, to get her interested in [illegible] whether she had not [illegible] the money. After eight days had elapsed she again remembered [illegible] dream:

8[illegible] [illegible] DREAM: "*I am at home and [illegible] small coins up [illegible] I also find [illegible] I feel the money and the [illegible] my brothers.*"

8[illegible] *Result of the analysis:* The patient thinks of going home; she has made several good resolutions and particularly thinks that she [illegible] find a substitute for the impossible relationship [illegible] in her family, especially in her brothers. The background of the dream, however, remains uninterpreted.

Material: In this dream she has realized her [illegible] earning of money. A new feature, however, is the [illegible] scenes, which she [illegible] She shows her brothers what she has washed [illegible] which is perhaps [illegible] scene. The [illegible] analysis yielded [illegible] general [illegible] were [illegible] What [illegible] at the kitchen [illegible] are they perhaps [illegible] at the dinner table? I could not solve this question.

8[illegible] NINTH DREAM, Dec. 12: "*I am going for a walk in Zurich [illegible] home [illegible] I see a [illegible] a man [illegible] Miss L. [illegible] only [illegible] only*

[illegible]

6. [illegible] stresses. So she goes home, where she again [illegible]

[illegible] alarm that follows also indicates this.

[illegible]

---

[34] [In German, dürren Landjäger

[illegible]

Italy and visit him."

Remember here R 95. Test VI

[illegible]

by Smith.]

[illegible] brother now, she has turned away from me

[illegible] gain access

[illegible] venture to press the point any further

[illegible]

[illegible] Here it should also be remembered that in the dream of the [illegible] room there was the cry "Stop, this is forbidden!" Perhaps my phrase made such an impression, because it was complex-stimulating and expressed something that was [illegible] touched actually exists.

[illegible] complex [illegible] school.

Summary of the Dream-analyses

[illegible] …lness.

III. The Hysterical Symptom

[illegible] "St. Vitus's dance."

[illegible]

[illegible] complex [illegible] as [illegible] hysterics. It [illegible] is easy [illegible] things [illegible] the same secret [illegible]. The [illegible] keep the intimate secret can become very great [illegible] but [illegible] impossible [illegible] as we [illegible] seen in the case described in "Psychoanalysis and Association Experiments." I therefore [illegible] to get [illegible] the complex in a hysterical [illegible] ideas [illegible] made [illegible] the [illegible] psychoanalysis. First we therefore [illegible] ideas [illegible] the symbolical [illegible] complex and [illegible] complex [illegible] different aspects. The method [illegible] the same as [illegible] used [illegible] example [illegible] nervous [illegible] The analysis [illegible] special [illegible] questions [illegible] is [illegible] questions [illegible] to answer a number of [illegible] questions [illegible] easy questions [illegible] the required answers [illegible] comes [illegible] I [illegible] ask [illegible] So first I [illegible] her [illegible] supplementary questions and [illegible] this way [illegible]

She liked going to school [illegible] liked [illegible] All [illegible] like all [illegible] character [illegible] she particularly disliked certain lessons [illegible] disliked [illegible] teachers. She [illegible] sons [illegible] I was [illegible] second year at school [illegible] her [illegible] because [illegible] she could [illegible] She [illegible] lessons [illegible] legs [illegible] she could no longer go to school at all. So [illegible] developed. She also remembers [illegible] terribly at the time [illegible] when [illegible] so that she [illegible] school [illegible] as well. This [illegible] was [illegible] sometimes she could [illegible] school [illegible] two years, however, [illegible] she [illegible] school altogether.

823 I think it emerges clearly from this narration that the patient was an extremely spoilt child who used every opportunity

[illegible] the purpose of [illegible] the [illegible] The [illegible] [illegible] the purpose of [illegible] [illegible] [illegible] feelings [illegible] [illegible] First [illegible] there are expressions [illegible] [illegible] [illegible] the patient [illegible] [illegible] inconsistency [illegible] [illegible] seems that whatever she says at any given moment [illegible] [illegible] The [illegible] [illegible]

Th[illegible] [illegible] [illegible] uncertainty and inconsistency here again

[illegible] During her [illegible] year [illegible] [illegible] the year from [illegible] sexual [illegible] marriage [illegible] parents [illegible] [illegible] year [illegible] the patient [illegible] plex of the mother; the result was as follows

A [illegible] [illegible] always said [illegible]

[illegible] the disease is curable, so the doctors say [illegible] [illegible] the same illness."

849 [illegible] this [illegible] sex [illegible] made a strong impression [illegible] from the strength of the resist[illegible] [illegible] case [illegible] we find [illegible] the first [illegible] the sexual complex. [illegible] the first per[illegible] she was [illegible] complexes, the associat[illegible] developed automatism [illegible] possible [illegible] experience [illegible] [illegible] prepared the way for repressing the sexual complex [illegible] sexual [illegible] dreams seem to indicate, would fit in.

850 [illegible] construction [illegible] sexual one. It is therefore [illegible] is replaced by the sexual complex [illegible] we [illegible] seen, it is [illegible] present [illegible] the associations [illegible] above all [illegible] complex [illegible] is expressed [illegible] had [illegible] day. She [illegible] heat sensations [illegible] while she was speaking, her right arm [illegible] then the left one [illegible] I drew her attention to these movements, then her legs also began to [illegible] slightly

[illegible]

[illegible]

[illegible] dence for Freud's conception.

[illegible] the repression of the sexual feelings:

1. the constant craving to cool down,
2. the cold washes,
3. the horror of meat in any form.

[illegible] Phenomena.

4. the inability to sit still.

[illegible] any physically strenuous occupations.

[illegible] text books.

[illegible]

[illegible] this relapse [illegible] be expected. The [illegible] the sexual [illegible] had [illegible] appear [illegible] that would [illegible] be separated [illegible] her role as an invalid. As she was made to separate [illegible] she had [illegible] the heat sensations [illegible] repressed [illegible] the former symptoms [illegible] misunderstanding [illegible] that I was right [illegible] made [illegible] less [illegible] less questionable.

[illegible] A [illegible] months after the [illegible] her doctor wrote [illegible] she was [illegible] as before and that she now [illegible] the hospital [illegible] with [illegible] difficulties [illegible] I [illegible] sexual complex [illegible] itself [illegible] aggressive [illegible] reduces [illegible] personality [illegible] possible [illegible] order [illegible] part [illegible] mind. In this way [illegible] the [illegible] securess [illegible] a free road [illegible] because each complex strives to live itself out unimpeded.

SUMMARY

[illegible] [illegible] complex revealed [illegible] association [illegible] root of the dreams and of the hysterical symptoms.

[illegible] [illegible] disturbances that the complex causes in the association experiment are none other than the resistances in psychoanalysis, as described by Freud.

[illegible] The mechanisms of repression are the same [illegible] the association experiment as in the dream and the hysterical symptom.

[illegible] The complex has an abnormal [illegible] and [illegible] separate existence, which reduces and replaces the [illegible] power of the ego-complex. In this way a new [illegible] personality is gradually created, the [illegible] resolutions of which move only in the

Ire [illegible] secondary (repressed) complex.

[illegible] domination by the complex of the illness.

THE PSYCHOPATHOLOGICAL SIGNIFICANCE OF THE ASSOCIATION EXPERIMENT

[illegible] harvest from the work in this field.

[illegible]

First published as "Die psychopathologische Bedeutung des Assoziations- [illegible] Zurich [illegible]

[illegible] For [illegible] [illegible] Wundt [illegible] taken over [illegible] mental [illegible] Wundt's school [illegible] experimental [illegible] a large [illegible] papers have been published [illegible] provide a source [illegible] years [illegible] Kraepelin's [illegible]

[illegible] concerned [illegible] the experimental [illegible] influences [illegible] psychopathology.

[illegible] papers [illegible]

[illegible]

[illegible] that [illegible] suggest [illegible] association [illegible] Nature [illegible] experiment [illegible] association [illegible] Wundt [illegible]

---

[1] Psychologische Arbeiten [illegible]

[2] [illegible]

[3] [illegible] 1904

[4] "Psychosomatic Experiments" [illegible]

[illegible] processes. The [illegible] says [illegible] word [illegible] stimulus [illegible] The same [illegible] word [illegible] We [illegible] images or associa[illegible] From [illegible] the [illegible] processes [illegible]

[illegible]tscholdt, "Experimentelle Untersuchungen über die Association der Vorstellungen," 188[illegible]

[illegible] principle [illegible] dependent [illegible] authorities.

[illegible] principle [illegible] experiment [illegible] experiment [illegible] experiments.

[illegible] results [illegible] impression [illegible] individual [illegible] almost [illegible]

[illegible]

for a long time the verbal chaos. Wundt and Ziehen helped themselves by means of certain logical principles of classification based on the laws of similarity and simultaneity which have come down to us from classical times. Thus at least logical laws were established, although neither Wundt nor anyone else seriously imagined that they could exhaust all the possibilities. Aschaffenburg and Kraepelin proceeded on the same lines. They made one essential distinction between internal and external associations. The following associations

human being	boy
attack	defence
table	furniture

are internal associations, i.e. pairs in which the meaning or conceptual content of the words is the essential connecting link.

872 On the other hand, associations such as

knife	trousers-pocket
water	fish
paint	pot

are external associations, i.e. the connecting link is not the intrinsic sense or meaning but an external contingency. One particular form of this external connection is the stock phrase, as such phrases readily come to mind; they are especially frequent in this experiment. For instance, the following associations, as purely verbal connections, are to be considered as external:

time	and tide
whisper	sweet nothings
stick	in-the-mud
die	is cast

873 Among external associations Aschaffenburg includes also current word-sequences.

874 Apart from the internal and external associations there is often also the case of a word merely suggesting another having a similar sound:

part	heart
[illegible]	plough
rabbit	habit

These have been called sound associations.

In spite of the tremendous [illegible] research workers [illegible] present [illegible] problems [illegible] association research.

One of [illegible] Aschaffenburg's predecessors [illegible] association research [illegible] Münsterberg [illegible] believed he had found [illegible] the existence of three different [illegible] types [illegible] his experiments. He [illegible] Aschaffenburg, however, [illegible] found nothing of the kind.

The [illegible] of finding categories [illegible] association was [illegible] One [illegible] internal associations [illegible] external [illegible] several [illegible]

At this stage [illegible] Kraepelin and Aschaffenburg made [illegible] the [illegible] experiments were deliberately made as [illegible] possible [illegible] professor [illegible] given a series [illegible] through the night [illegible] evening [illegible] the pauses [illegible] some other [illegible] During the night the subjects were given nothing to eat.

In this state a series of the same stimulus words was repeated.

One [illegible] phenomenon [illegible] came out [illegible] the association [illegible] there was a decrease in the number of [illegible] associations and an increase in the external [illegible], especially [illegible] the sound associations. [illegible] associations [illegible] weaken with increasing tiredness and are replaced by external

---

[illegible] psychoanalysis.

[illegible]

[illegible]

---

* Jung and Riklin, "The Associations of Normal Subjects," supra.

[illegible]

explained as follows.

[illegible]

[illegible]

These findings confirm Ranschburg's statements. Cf. Ranschburg and Balint, [illegible] Vorgänge im hohen Greisenalter, 1900.

[illegible] than just a word. An uneducated person, on the other hand, is [illegible] stimulus [illegible] to treat [illegible] in a sentence, where they always have a definite meaning. [illegible] uneducated person [illegible] always constructs something like a sentence around it. He [illegible] understands the word as a question. Hence the tendency of uneducated subjects to react with whole sentences and the use of higher categories, as for instance the uneducated man will react to *table* [illegible] to the word *meaning* [illegible] the word *table* [illegible] The educated person finds it easy to grasp the experiment, which consists in [illegible] something different from what he is used to [illegible]. It therefore so happens that [illegible] they appear to express a [illegible] the use of [illegible] The degree of [illegible] needed for [illegible] varies according to the subject's grasp of the experiment. This [illegible] greater [illegible] the [illegible] educated [illegible] has some bearing on the [illegible] of the associations. With very uneducated and mentally defective subjects,[1] the reactions assume the character of [illegible] which frequently seem clumsy and comical, e.g.

singing — consists of notes and hymn-books
smoking — when you [illegible] your feet or
Sunday pint

From our [illegible] approximately [illegible] normal subjects [illegible] study [illegible] associations [illegible] there is [illegible] of association [illegible] I [illegible] purpose [illegible] type. There are people who [illegible] extraordinarily [illegible] One [illegible] We have, however, been able [illegible] state that some features associate [illegible] experimental [illegible] accidental [illegible]

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[1] Wehrlin, "The Associations of Imbeciles and Idiots," 1904.

[illegible] As you can see, the association experiment [illegible] plays its part in the [illegible] investigation. There are, however, [illegible] depends on the momentary state [illegible] level and the type [illegible] personal circumstances. [illegible] that these three factors correspond [illegible] personal [illegible] words, our personality [illegible] the combination [illegible] and statements [illegible] Weygandt [illegible] I [illegible] empty statement. I [illegible] briefly outline the evidence for it.

[illegible] In the second experiment we measure [illegible] second [illegible] values. [illegible] should suffice.

[illegible] As to the classification of associations, [illegible] associations. Here the [illegible] twenty or thirty seconds [illegible] first [illegible] reason.

[illegible] (1907).]

[illegible] also [illegible] give [illegible] precise information [illegible] Cordes [illegible] and Mayer and Orth [illegible] take long [illegible] for example [illegible] seconds [illegible] R [illegible] takes 20 seconds [illegible] ask [illegible] B [illegible] thing [illegible] special to report.

[illegible] in one person [illegible] association [illegible] stimulus-word and [illegible] that [illegible] case B [illegible] analyze himself psy[illegible] related [illegible] knowledge [illegible] deepest secrets [illegible] pause after every reaction [illegible] takes longer [illegible] the average and ask what [illegible] We [illegible] the subject [illegible] give the [illegible] explanation to each long reaction [illegible] When we have [illegible] hundred reactions [illegible] was taken [illegible] rest [illegible]

[illegible]

[illegible] part [illegible] images [illegible] image [illegible]

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[1] "Die Ideenassoziation des Kindes" (1898–1900).

[2] Zur qualitativen Untersuchung der Associationen [illegible]

[illegible]

the same [illegible] that [illegible] complexes make their [illegible] recognizable [illegible] feelings [illegible] seemed [illegible] the more [illegible].

The [illegible] are [illegible] complexes [illegible] the same [illegible] using [illegible]. These [illegible] also [illegible] large [illegible].

[illegible] that our psychological [illegible] in [illegible] the [illegible] have [illegible]. However, as [illegible]. His present [illegible] his [illegible] have [illegible] his association [illegible] the [illegible] the same [illegible] the [illegible] memory. Only [illegible] expectations [illegible] as it were [illegible] his reactions a psychological [illegible] was made.

We [illegible] also [illegible] demonstrate [illegible] significance [illegible] the [illegible] which every one [illegible] everyone [illegible] himself [illegible] the experiment himself.

[illegible] most important [illegible] few seconds [illegible] reaction [illegible] something [illegible] being [illegible] a [illegible] the smallest [illegible] complexes. The [illegible] of everyday life [illegible] are [illegible].

can get [illegible] We [illegible] organization [illegible] reason we are bound to expose ourselves [illegible] experiment in exactly the same way as [illegible]

856 You can see from this striking [illegible] there is no gap which [illegible] break through. So you may [illegible] I say that the recognition of this fact is of great value [illegible] the investigation of [illegible] illness.

857 Most cases of mental [illegible] are, however, a matter of far-reaching changes of personality; [illegible] the association test at least paves the way [illegible] experimental research towards the discovery of the secrets of the sick mind.

858 Before we go [illegible] the association experiment, we [illegible] say a few words about the [illegible] the experiment even with normal subjects.

859 We have been assuming that [illegible] subject is a man of excellent [illegible] unbiased and able to think [illegible] feelings. In such a case analysis would not be difficult. But if we were to take as subject a sensitive woman who does not know us, the analysis would be considerably more difficult. Everyone is always inclined to reserve certain secrets, particularly of a sexual nature, and would not disclose them at any price. It is here that from the very beginning the experimenter has a significant and almost insurmountable [illegible] Then there are certain peculiarities [illegible] consciousness that and concealment [illegible] make analysis extremely [illegible] I shall try to sketch these characteristics [illegible]

860 We have all [illegible] experience of some thing really unpleasant which has subsequently [illegible] for a long time [illegible] we have made an effort to forget this black spot, to repress [illegible] we have deliberately tried not to think about it. And eventually we succeeded in not thinking about it any more. We have forgotten. In associations, however, this black spot reveals itself, and the [illegible] characteristics of the [illegible] affect [illegible] there. In analysis we [illegible] first some trouble in thinking of the [illegible] the more unpleasant it was the longer it takes us to get back to it [illegible]

[illegible] Nevertheless [illegible] cannot will himself to think about it.[2]

Our [illegible] Many experiments [illegible] In [illegible] In these experiments [illegible]

[illegible] hindrances.

The [illegible] analysis that [illegible] suggests [illegible] It is quite [illegible] suggest [illegible] some explanation suggested [illegible] experimenter [illegible] previously [illegible] A [illegible] experienced [illegible]

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[1] Jung, Experimental Observations [illegible]

[2] On hysterical [illegible], cf. Riklin, "Analytische Untersuchungen der Symptome und Assoziationen eines Falles von Hysterie" [illegible]

stands the experimenter [illegible] will no longer [illegible] the unknown quantity of suggestion.

494 [illegible] complexes [illegible] among [illegible] subjects [illegible] the subjects [illegible] groups: men and women.

495 [illegible] women [illegible] that the complexes are [illegible] nature and are usually [illegible] recognizable [illegible] the woman's [illegible] erotic nature [illegible] the word [illegible] as [illegible] most [illegible] women [illegible] although [illegible] in a [illegible] No woman who finds herself [illegible] It is [illegible] process [illegible] never [illegible] In [illegible] women [illegible] experiences. Among the [illegible] complexes [illegible] most frequent [illegible] as [illegible] in general [illegible] are [illegible] experience [illegible] upon which [illegible] parents [illegible] complexes [illegible] pregnancy and children [illegible] reactions [illegible] and [illegible] social [illegible] erotic complexes strikingly often [illegible] a large part [illegible] great [illegible] marriage [illegible] previous [illegible] hopes [illegible] This [illegible] a case of [illegible] but did not marry.

496 In [illegible] the erotic complex [illegible] background [illegible] It is perhaps [illegible] the same [illegible] that [illegible] strong [illegible] Money [illegible] plays [illegible] part [illegible] associations [illegible] complexes [illegible]

[illegible] complex [illegible] The experiment [illegible].

[illegible] Recently Professor [illegible] that the complex can also [illegible] certain [illegible] I succeeded [illegible] considerable theft.[20]

[illegible] These results [illegible] have [illegible] psychopathology [illegible] degree that [illegible] Here the associations [illegible] complex and the [illegible] personality hardly shows [illegible] The complexes [illegible] same [illegible] greater [illegible] As [illegible] than with normal subjects.

[illegible] [illegible] the sensitivity [illegible] is greater in [illegible] patients [illegible] An [illegible] hysteria, however, is a complex [illegible] charged with most power [illegible] is still [illegible] the patient [illegible] the greatest importance in therapy.

[illegible] [illegible] examples.

[illegible] A hysterical girl [illegible]

---

[20] Jung, "The Psychological Diagnosis of Evidence," supra.

[21] On this question, see especially the works of Sigmund Freud, to whose far-seeing psychological understanding modern psychiatry will be very much indebted.

[illegible]

[illegible] minds.

[illegible]

[illegible]

[illegible]

of the mind which, as far as we can see, causes many of the characteristic symptoms of this disease, [illegible] can admittedly we find ingredients lacking in hysteria.[12]

You may have gathered from these indications of mine [illegible] the significance of the association experiment is for psychopathology, and [illegible] the [illegible] universal [illegible] the significance [illegible] the feeling-toned complex.

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[12] In [illegible] I have expressed [illegible] dementia praecox [illegible] found that the symptoms of this disease can be explained in a large number of cases as complex phenomena. See "The Psychology of Dementia Praecox" and other works in vol. 3, *Coll. Works*.

DISTURBANCES OF REPRODUCTION IN THE ASSOCIATION EXPERIMENT

[illegible] My [illegible] Because [illegible] In 1905 I maintained the following:

[illegible] I have [illegible] answers [illegible] reproduced [illegible] I have [illegible]

[illegible]

See supra, par. [illegible]

Experimental Observations on the Faculty of Memory, supra.]

[illegible]

Isserlin, "Über Jungs 'Psychologie der Dementia praecox,' etc." [illegible]

[illegible] had "interfered" and brought [illegible] ed to a wrong conclusion

[illegible]

[illegible] experiment [illegible] complex during [illegible] experiment [illegible]

[illegible] complex-characteristics [illegible] complex-characteristics [illegible] necessary [illegible] complex [illegible] complex-characteristics [illegible] quently met with is the *reaction-time*.

[illegible]

The most obvious method [illegible] would be simply [illegible] reproduced associations [illegible] remaining [illegible] quite [illegible]

1. Critical reaction with [illegible] prolonged [illegible] / reproduction-disturbance [illegible]
2. Critical reaction with prolonged time [illegible]

   Critical reaction with reproduction-disturbance. Post-critical [illegible]

   Post-critical reaction with prolonged time / [illegible]
3. Reproduction-disturbance of critical and post-critical reaction (twofold sequences of disturbance).
4. [illegible] quences of disturbance.

[illegible] These [illegible] [illegible] must be taken [illegible] [illegible] [illegible]. In a previous [illegible] on [illegible] Association Studies, I used the probable mean to determine the average [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] by excessively short times [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] generally gives a much [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. What [illegible] the average [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. But [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] numbers [illegible] evidence.

[illegible] [illegible] [illegible] I [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] twenty-eight cases [illegible] [illegible] investigated some time ago [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the present [illegible] [illegible] [illegible] [illegible] the cases were investigated

[1] "The Reaction-time Ratio in the Association Experiment," supra.

[illegible] several years ago. Among the subjects [illegible] experience [illegible] only [illegible] and psy[illegible] types. The material is therefore as [illegible] heterogeneous as [illegible] I have [illegible] the results in the following table [illegible] times are given in 1/5 seconds)

Case and diagnosis		Associations	Associations above	equal to	below		
G.	Hebephrenia	100 [illegible] [illegible] I.R. [illegible]	22	5	8	10.6	12.5
A.	Moral insanity	100 A.M. [illegible] [illegible] I.R. [illegible]	50	6	9	14.1	10.2
R. ♀	Hebephrenia	100 A.M. [illegible] [illegible] I.R. [illegible]	1		4	—	11.7
P.	Paranoia	100 A.M. [illegible] [illegible] I.R. [illegible]	3	2	7	13.0	19.8
H.	Catatonia	[illegible] [illegible] [illegible] [illegible]	48	1	19	25.0	31.0
G. ♀	Hysteria Kornbercl [illegible]	[illegible] [illegible] [illegible] I.R. [illegible]	6	—	[illegible]	—	16.[illegible]
W. ♀	Dementia praecox	[illegible] [illegible] [illegible] I.R. [illegible]	29		24		16.[illegible]

[illegible] able mean (P.M.), column 3 for those below the probable mean.

[a] I.R. = incorrectly reproduced.

Case and Diagnosis		Associations	Associations incorrectly reproduced			I	II
				above	below the P.M.		
G.	Organic mental defect	100 P.M. 47.0 A.M. 57.0 I.R. 67%	34	8	31	165.0	57.4
Z ♀	Dementia praecox	100 P.M. [illegible] A.M. 14.4 I.R. 5%	32	6	13	14.0	16.7
H ♀	Dementia praecox	100 P.M. [illegible] A.M. [illegible] I.R. [illegible]	32	5	14	9.0	16.5
	[illegible]	[illegible]	16	5	7	10.2	16.
F	Moral [illegible]	[illegible] P.M. [illegible] A.M. [illegible] I.R. 80%	21	5	4	17.8	8.0
K ♀	Dementia praecox	100 P.M. 17.0 A.M. 2 8 I.R. 88%	23	—	15	—	24.4
K ♀	Dementia praecox	100 P.M. 5.0 A.M. 7.1 I.R. 85%	18	4	3	4.7	9.6
[illegible]	Paranoia	100 P.M. 13.8 A.M. 13.9 I.R. 4%	7		7		10.4
B	Psychopathy	113 P.M. 18.0 A.M. 19.5 I.R. 27.4%	16	2	13	19.0	17.6
S	[illegible]	[illegible]	24	3	5	12.6	16.6
H	Imbecility	[illegible] P.M. [illegible] A.M. 30.4 I.R. 27.8%	14	4	11	56.7	24.4

Case and Diagnosis		[illegible]	Associations [illegible] above	[illegible] P.M.	below		[illegible]
S.	Psychopathy	100 P.M. 12.0 A.M. 15.4 I.R. 37%	26	4	7	19.0	6.4
R.	Dementia praecox	50 P.M. 92.0 A.M. 38.5 I.R. 56%	14	2	8	12.5	33.5
R. ♀	[illegible] the brain	100 P.M. 14.0 A.M. 17.3 I.R. 46%	25	3	20	12.6	5.3
S.	Imbecility	100 P.M. 26.0 A.M. [illegible] R. [illegible]	13	—	8	—	55.8
J. ♀	Normal	[illegible] P.M. [illegible] A.M. [illegible] R. [illegible]	8	—			
H.	Alcoholism & imbecility	[illegible] P.M. [illegible] A.M. [illegible] R. [illegible]	28		9	—	13.3
P.	Normal	[illegible] P.M. [illegible] A.M. [illegible] R. [illegible]	20	6	7	7.7	8.6
A.	Normal	[illegible] P.M. [illegible] A.M. [illegible] I.R. [illegible]	1	-	4		8.
S.	Moral imbecility	[illegible] P.M. [illegible] A.M. [illegible] R. [illegible]	27	2	11	9.0	14.3
W. ♀	Neurasthenia	[illegible] P.M. [illegible] A.M. [illegible] R. [illegible]	8	1	9	9.0	16.8

[illegible]

[illegible] not permit [illegible] to follow. This is a very general experience. An average [illegible] cent [illegible] [illegible] explained. [illegible] the last [illegible] have [illegible] compared with the reserve mentioned above [illegible] purely different significance. As already stated, only the [illegible] processing [illegible] has only [illegible] cases in which [illegible] itself and below the general [illegible] possible that [illegible] the result of perseveration [illegible] which the longer [illegible] the following [illegible] would be [illegible] give [illegible] reproductions [illegible] however [illegible] means [illegible] however considerably. [illegible] not so [illegible] but the same considerations apply [illegible] figures [illegible]. Here we [illegible] preceding [illegible] reproductions [illegible] probable mean [illegible]. Here we [illegible] that [illegible] in the experiments [illegible] figures [illegible] explanation [illegible] considerable extent [illegible] processes [illegible] associations [illegible] regularity [illegible].

Series of Disturbance and Reaction-time

In [illegible] material [illegible] the incorrect reproductions [illegible] series. This [illegible] shows that there is very [illegible] a relationship between incorrect reproductions [illegible] perseveration [illegible] experiments [illegible] ing of the [illegible] certain people may not be regarded [illegible] psychology. If this [illegible] my analogy is right, then the series of disturbances must show the same complex [illegible] as the [illegible] complex sequences [illegible] first of a prolonged reaction times. In order not to [illegible] unnecessary tables I am giving figures for each subject. That there is enough material [illegible] from the above-mentioned percentage figure. The number of disturbed reproductions [illegible] this calculation amounts to a little more than six [illegible]. We calculate the [illegible] mean [illegible] of the [illegible] reproductions associations following one another immediately and compare the mean with the probable mean and [illegible] mean for each subject. Sequences of

2	disturbances are on an average	7.7	above the	P.M.
2	" " " "	5.6	" "	A.M.
3	" " " "	9.6	" "	P.M.
3	" " " "	6.9	" "	A.M.
4	" " " "	11.6	" "	P.M.
4	" " " "	6.4	" "	A.M.
5 and more	" " " "	6.7	" "	P.M.
5 and more	" " " "	2.4	" "	A.M.

927 We see an increase of the time values up to the series of four disturbances, whereas in the series of five and more they are again lower. This [illegible] does not fit badly with the [illegible] perseveration. Not infrequently we can see a strong complex perseverating through three and four disturbances, sometimes with [illegible] increase of the reaction times. The stronger the complex aroused, the stronger [illegible] will the disturbances [illegible]. In longer series, however, which in any case are [illegible] less frequent, other factors that interfere with the experiment often appear.

928 We can summarize by saying: *In the main the disturbances [illegible] connected with the prolonged [illegible] related to the [illegible] preceding [illegible] the prolonged [illegible] majority [illegible].* (The question of the reaction time following [illegible] because [illegible] secondary importance.)

929 One can apply another, perhaps even more instructive

[illegible] are [illegible] sequences. I have taken [illegible] sequences [illegible] categories as follows. [illegible] these series [illegible] time is longer than [illegible] the immediately preceding associations, thus:

Associations correctly repr.	Disturbances I	II	III	IV	Associations correctly [illegible]
9	10	8	6	6	7
0	80	15		—	1
6	92	15	8		8
2	35	16	16	—	14

a

691 In this way I have arranged [illegible] hundred and nineteen series [illegible] category [illegible] the numbers of figures in each column.

692 The second category [illegible] series [illegible] disturbance begins [illegible] immediately preceding correctly reproduced association [illegible] the purpose of comparison I have [illegible] the association preceding [illegible] whether it has been correctly reproduced. [illegible] mistakes were [illegible] made my results even more impressive.

693 This category is therefore composed as follows:

Preceding association	Associations correctly repr. [illegible] I	Disturbances I	II	III	Associations correct repr. at end [illegible]
24	37	8	21	—	10
12	25	13	55	12	23
8	40	12	20	—	9

b

694 This category consists of 30 sequences. A few sequences in which the correctly reproduced associations and the first disturbance of the series had the same reaction time were equally

distributed among the two categories. The results are as follows, given in arithmetical means and in 1/5 seconds.

CATEGORY I Association correctly repr.	Disturbances					Association correctly repr. at end of series
	I	II	III	IV	V	
14.8	37.2	22.8	23.9	33.0	27.0	17.9

CATEGORY II Preceding association	Association correctly repr. with long R.T.	Disturbances			Association correctly repr. at end of series
		I	II	III[*]	
18.3	22.5	15.3	22.7	30.0	17.6

The average arithmetical time-mean of the 24 cases used here is 19.8. We see therefore that all four times, with one exception, lie considerably above this mean. The exception is found in those reproductions (Category II) which immediately follow a prolonged reaction-time.

Reproduction-disturbance and Probable Time-mean

984 If, as appears proved by the preceding investigation, the reproduction-disturbance occurs mainly in conjunction with prolonged times, one may venture the assumption that the number of disturbances with longer individual time-means generally increases. This seems, at least according to my limited material, to be actually the case. For a probable mean of

5–10 an average of [illegible] disturbed reproductions
10.5–15 " " " 31.8 "
15.5–20: " " " 31.8 "
20.5 and over: " " " 44.2 "

To clarify this particular question, however, much more material is necessary.

Reproduction-disturbance and Complex-characteristics excluding Prolonged Reaction-times

985 Besides prolonged reaction-times I found the following to be complex-characteristics: reaction by two or more words if

---

[*] The fourth and subsequent disturbances are not given because they are based on too small a series of numbers (less than 20). But they also continue to exceed the general arithmetical mean of 19.8, for the reason that the number and the series of disturbed reproductions tend to increase with the length of the reaction-time.

s[illegible] usually responds with one word, repetition of the s[illegible] answer [illegible] misunderstanding of the stimulus word, mistakes, slips of the tongue, translation into a foreign language, [illegible] with some quotations, a foreign word [illegible] of [illegible] or other [illegible] before or after the reaction [illegible] contents of the reaction, the severance [illegible] as [illegible] ent [illegible] etc. The [illegible] of the contents are opinion on the person [illegible] and some are subject to personal influences; therefore I omit these two criteria from my investigation. I [illegible] perseveration of a reaction word which [illegible] identical [illegible] the following reaction. I have selected from my material nine cases [illegible] are characterized by the fact that they usually responded with only one word. I have [illegible] the [illegible] complex characteristics [illegible] of the experiment, and [illegible] many of these [illegible] reproduced associations.

[illegible] The following table contains the results of this investigation in individual figures.

Complex-indicators [illegible] reproduced

	correctly	incorrectly
1.	0.08	0.16
2.	0.1	0.4
3.	0.03	0.2
4.	0.03	[illegible]
5.	0.15	[illegible]
6.	0.11	[illegible]
7.	0.37	[illegible]
8.	0.08	0.20
9.	0.06	0.15
10.	0.12	0.42
11.	0.27	0.36
12.	0.03	0.18
13.	0.06	[illegible]
14.	0.01	0.2
15.	0.06	0.44
16.	0.29	0.29
17.	0.04	0.15
18.	0.31	0.54
19.	0.18	0.29

[illegible] If one considers that not all complex-reactions are necessarily reproduced incorrectly, and that the incorrectly reproduced associations are composed [illegible] of the associations [illegible] then the result, however, even [illegible] above [illegible] is rather remarkable: we see that in each case without exception more complex-characteristics are produced with those associations that are going to be reproduced incorrectly later on. As a rule, they are recognizable beforehand. The incorrectly reproduced associations show on an average a little more than twice as many complex-signs as those correctly reproduced.

SUMMARY

998 In my [illegible] heterogeneous material there is undoubtedly a relation between incorrect reproduction and prolonged [illegible] from [illegible] shows itself in such a way that disturbances of reproduction chiefly occur with prolonged [illegible] following these. The [illegible] associations that are afterwards incorrectly reproduced [illegible] on average twice as many complex-signs as the correctly reproduced ones, except for the over-long reaction time [illegible] and the [illegible] perseveration. From this it follows that the complex-characteristics tend to be grouped round certain associations. When analysing these one can [illegible] see where the [illegible] these greatly varying complex-characteristics originate.

THE ASSOCIATION METHOD

[illegible] task in the following manner

[illegible] ogy of the child

[illegible]

---

[1] [The first of a series of lectures under the general [illegible] "The Association Method," delivered before the Department of Psychology [illegible] celebration of the [illegible] 1909. The three lectures were translated by A. A. Brill and published in the *American Journal of Psychology*, XXI [illegible] in a Clark [illegible] *Papers* [illegible] New York [illegible] Complexes in a Child," *Coll. Works*, vol. 17 [illegible]

[illegible] and Jung's in "education and social hygiene."

[illegible] with the Brill translation.]

association method or [illegible] its use in psychology [illegible] such [illegible] that there is no need to enlarge upon them. In practice I proceed by using the following set of words:*

1. head
2. green
3. water
4. to sing
5. dead
6. long
7. ship
8. to pay
9. window
10. friendly
11. table
12. to ask
13. cold
14. stem
15. to dance
16. village
17. lake
18. sick
19. pride
20. to cook
21. ink
22. angry
23. needle
24. to swim
25. journey
26. blue
27. lamp
28. to sin
29. bread
30. rich
31. tree
32. to prick
33. pity
34. yellow
35. mountain
36. to die
37. salt
38. new
39. custom
40. to pray
41. money
42. stupid
43. exercise-book
44. to despise
45. finger
46. dear
47. bird
48. to fall
49. book
50. unjust
51. frog
52. to part
53. hunger
54. white
55. child
56. to pay attention
57. pencil
58. sad
59. plum
60. to marry
61. house
62. darling
63. glass
64. to quarrel
65. fur
66. big
67. carrot
68. to paint
69. part
70. old
71. flower
72. to beat
73. box
74. wild
75. family
76. to wash
77. cow
78. friend
79. happiness
80. lie
81. deportment
82. narrow
83. brother
84. to fear
85. stork
86. false
87. anxiety
88. to kiss
89. bride
90. pure
91. door
92. to choose
93. hay
94. contented
95. ridicule
96. to sleep
97. month
98. nice
99. woman
100. to abuse

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* [The holograph contains merely the direction "insert" and the list that follows here is from Brill, modified to conform to the present translation. It corresponds closely to a list that Jung customarily used in German, viz.:

1. Kopf
2. grün
3. Wasser
4. singen
5. Tod
6. lang
7. Schiff
8. zahlen
9. Fenster

942 This set of words has grown into its present form as a result of many years of experience. The words are chosen and to some extent arranged so as to strike easily upon almost all the complexes that commonly occur in practice. As the foregoing list shows, there is a regular mixture of the different grammatical features. For this there are definite reasons.

943 Before the experiment begins the subject of the test is given the following instruction: "Answer as quickly as possible with the first word that occurs to you." This instruction is so simple that it can easily be followed. The task itself, moreover, appears extremely easy, so that anyone might be expected to

10. freundlich
11. Tisch
12. fragen
13. Dorf
14. kalt
15. Stengel
16. tanzen
17. See
18. krank
19. Stolz
20. kochen
21. Tinte
22. bös
23. Nadel
24. schwimmen
25. Reise
26. blau
27. Lampe
28. sündigen
29. Brot
30. reich
31. Baum
32. stechen
33. Mitleid
34. gelb
35. Berg
36. sterben
37. Salz
38. neu
39. Sitte
40. beten
41. Geld
42. dumm
43. Heft
44. verachten
45. Finger
46. teuer
47. Vogel
48. fallen
49. Buch
50. ungerecht
51. Frosch
52. scheiden
53. Hunger
54. weiss
55. Kind
56. aufpassen
57. Bleistift
58. traurig
59. Pflaume
60. heiraten
61. Haus
62. lieb
63. Glas
64. streiten
65. Pelz
66. gross
67. Rübe
68. malen
69. Teil
70. alt
71. Blume
72. schlagen
73. Kasten
74. wild
75. Familie
76. waschen
77. Kuh
78. fremd
79. Glück
80. lügen
81. Anstand
82. eng
83. Bruder
84. fürchten
85. Storch
86. falsch
87. Angst
88. küssen
89. Braut
90. rein
91. Türe
92. wählen
93. Heu
94. zufrieden
95. Spott
96. schlafen
97. Monat
98. hübsch
99. Frau
100. schimpfen

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[1] The [illegible] in the following pages appear [illegible] paragraph [illegible] did not appear, though referred to.

a test-person should react with the greatest ease and rapidity. But, contrary to expectation, people behave quite differently.

I. Example of a Normal Reaction-type

Stimulus-word	Reaction-time	Reaction	Reproduction
head	9	foot	part of the body
green	11	house	
water	14	clear	light
to sing	6	children	
death	11	do not like	
long	6	short	I tall
ship	7	away	
to pay	6	bills	
window	9	room	
friendly	10	children	
table	9	chair	room
to ask	10	all sorts of things	
cold	7	warm	
stem	6	flower	
to dance	9	I like	Like
lake	8	Zurich	
sick	8	sister [i.e., nurse]	
pride	6	people	
to cook	7	woman	
ink	5	black	
angry	10	children	people
needle	9	to prick	
to swim	10	healthy	
journey	9	England	I like, much
blue	10	pretty	I like
lamp	6	bright	
to sin	8	much	people
bread	10	good	I like, necessary
rich	6	beautiful	
tree	6	green	
to prick	4	needle	

II. Example of a Hysterical Reaction-type

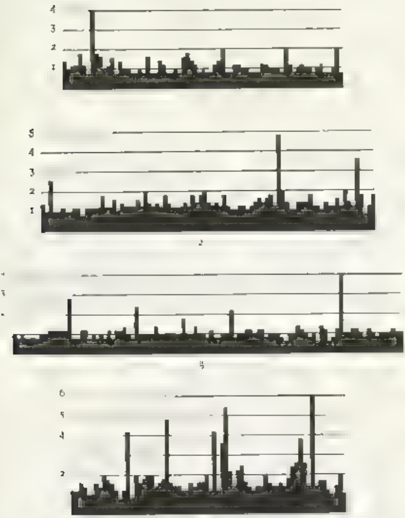
Stimulus-word	Reaction-time	Reaction	Reproduction
needle	7	to sew	
to swim	9	water	
journey*†	35	movement voyager?, to travel, ship	

* Stimulus-word misunderstood. † Repetition of stimulus-word.

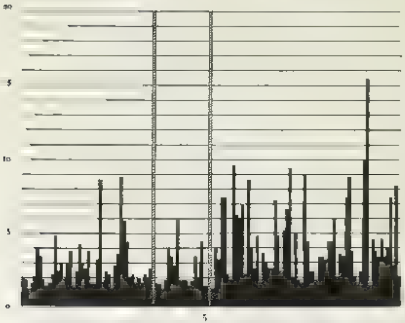
Stimulus word	Reaction time	Reaction	Reproduction
blue	10	colour	
lamp	7	to burn	
to sin	22	this idea is totally alien to me; I do not acknowledge it	
bread	10	to eat	
rich	50	money—I don't know	possession
tree	6	nature	green
to prick	9	needle	
pity	12	feeling	
yellow	9	colour	
mountain	8	high	
to die	8	to rot	
salt	15	salty (laughs)—I don't know—NaCl	
new	5	old—as the opposite	
custom	10	good—barbaric	
to pray	18	deity	
money	10	wealth	
stupid	8	narrow-minded—limited	
exercise-book	10	paper	
to despise	30	that is a complicated—too stupid	?
finger	8	hand—not only hand also foot—limb—*membre*, extremity	?
dear	14	to pay (laughs)	
bird	8	to fly	
to fall	30	*tomber*—I will say no more—what do you mean by to fall?	?
book	6	to read	
unjust	8	just	
frog	11	to croak	
to part	30	what does part mean?	?
hunger	7	to eat	
white	12	colour—all sorts of things—the light	
child	10	little—I did not catch that—*bébé*	?
to pay attention	[illegible]	[illegible]	
pencil	8	to draw—all sorts of things can be drawn	

Stimulus-word	Reaction-time	Reaction	Reproduction
sad	9	to weep—this does not always happen	to be
plum	16	to eat a plum—to pick—What do you mean by it? Do you mean it symbolically?	fruit
to marry	27	what can you mean by that? *reunion*—bond	union, alliance

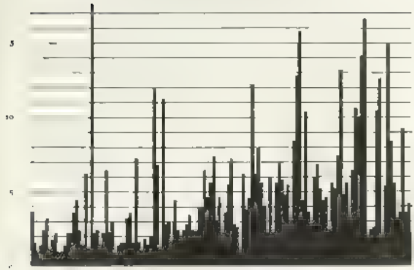
944 The first thing that strikes us is the fact that many subjects show a marked prolongation of the reaction time. This would seem to suggest intellectual difficulties—wrongly, however, for we are often dealing with very intelligent people with a good command of language. The factor responsible for this is connected with their feelings. In order to understand this, we must bear in mind that the association experiments investigate not just *one* component of the mind, since no psychological experiment can possibly be concerned with one isolated psychic function. No psychic occurrence is a thing in and by itself, but rather the resultant of the entire psychological past. The association experiment, too, is not merely a method for the reproduction of separate word pairs but a kind of pastime, a conversation between experimenter and subject. In a certain sense it is even more than this. Words are really a kind of shorthand version of actions, situations, and things. When I present the subject with a stimulus-word meaning an action, it is as if I presented him with the action itself and asked him: "How do you feel about it? What is your opinion of it? What would you do in such a situation?" If I were a magician I should cause the situation corresponding to the stimulus-word to appear in reality and, placing the subject in the centre, I should then study his reactions. Undoubtedly the effect of my stimulus-words would be much more perfect. But as we are not magicians we must content ourselves with the linguistic surrogates for reality; at the same time we must not forget that the stimulus-word will almost without exception conjure up its corresponding situation. All depends on how the subject reacts to this situation. The word *bride* or *bridegroom* will not evoke a simple reaction in a young girl, but the emerging strong



FIGS. 1-4. These graphs illustrate the reaction-times in an association experiment on four normal subjects. The height of each column indicates the length of the reaction-time.



Figs. 5–7. These graphs show the profiles of the reaction-times in several individuals. The lightly cross-hatched columns indicate places where the subject was unable to react (referred to as failures).


15
10
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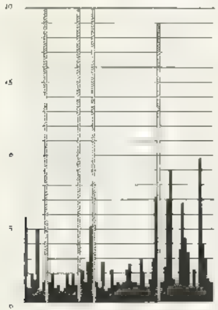
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[illegible] will markedly influence the reaction and [illegible] the experimenter is a man. [illegible] stimulus-words. There [illegible] stimulus-word [illegible] complexes in the association experiments. The example I have [illegible] shows a [illegible] long reaction-times and [illegible]. In this case the reaction to the stimulus-words [illegible] was inhibited [illegible] the stimulus-words is disturbed. [illegible] words are however [illegible] part [illegible] in a certain sense [illegible] which shows [illegible] connected with [illegible] on the words [illegible]. Any disease springs from impaired [illegible] we are dealing with something [illegible] the psyche [illegible] something either temporary or permanently [illegible]. [illegible] we are dealing with a psy-[illegible] within [illegible] disturbance [illegible].

This [illegible].

Let us now continue the discussion of the prolonged reaction-times. [illegible] that the subject [illegible] fails to answer to the stimulus-word. He fails to give any reaction and [illegible] agreement [illegible] showing [illegible] experiment. [illegible] adaptation is seriously [illegible]. I should like [illegible] that the reasons the subject gives for the refusal are [illegible] material. Some find that too many ideas suddenly occur to them; others, that too few ideas enter their minds. In most cases, however, the difficulties experienced at first are so [illegible] that the subject actually gives up the reaction altogether. Example III shows a case of hysteria with many failures of reaction.

In example II we find a characteristic phenomenon: the subject [illegible] with [illegible] the stimulus-word; that is, he is not satisfied with one word, but reacts with many. He apparently does more and better than [illegible]. But [illegible] he does not fulfil the terms of the instruction. Thus he reacts: [illegible] all sorts of things.

III

Stimulus-word	Reaction-time	Reaction	Reproduction
to sing	9	beautiful	
[illegible]	[illegible]	everything	
long*†	40	the time, the journey	?
ship†			
to pay	11	money	
window	10	big	high
friendly	20	a person	human
to cook	10	soup	
ink	9	black or blue	
angry	—	—	bad
needle	9	to sew	
lamp	14	bright	
to sin		—	
bread	15	for eating	
rich*†	40	good—comfortable	
yellow	8	sweet	colour
mountain	10	high	
to die	15	awful	
salt†	25	salty	
new	—	—	good, beautiful
custom†			
to pray	—	—	
money†	35	only—one can	
exercise-book	16	to write	
to despise†	22	people	
finger†	—	—	
dear	12	thing	
bird	12	sings or flies	

* Stimulus-word misunderstood † Repetition of stimulus-word

8 These examples show, first, that many more ideas are added to the reaction-word. The subject is unable to suppress these further ideas. In this way he also pursues a certain tendency that is more clearly expressed in the following reaction: *red / and—as the opposite.* The addition of *as the opposite* shows that the subject needs to add something explanatory or supplementary. This tendency is also shown in the following reaction: *finger / hand, not only hand, also foot, a [illegible] member, extremity.*

9 Here we have a whole series of additions. It seems as if the reaction were not sufficient for the subject, as if something else

must always be added, as if what has already been said were incorrect or in some way incomplete. This feeling is what Janet calls the sentiment d'incomplétude, but this, however, does not explain anything. I am enlarging on this phenomenon because it is very common in neurotic individuals. It is not merely a trivial and unimportant phenomenon of an experiment without significance, but rather an essential and universal phenomenon that plays a large part in the psychic life of neurotics.

[illegible] By his desire to supplement, the subject betrays a tendency to give the experimenter more than he wants; he actually labours in his attempts to find further ideas so as eventually to find something entirely satisfactory. If we translate this elementary observation into the psychology of everyday life, it means that the subject has a tendency always to give others more feeling than is demanded or expected. According to Freud, this is a sign of a reinforced [illegible], that is, it is a compensation for an inner [illegible] and lack of feeling. This elementary observation therefore points to one of the chief characteristics of hysterical patients, namely, the tendency to let themselves be carried away by everything, to fix their passion onto everything, and always to promise too much and hence keep only a few of their promises. Patients with this symptom are, in my experience, always rather disagreeable: at first they are enthusiastically charmed with the physician, for a time going so far as blindly to accept everything he says; but they very soon fall into an equally blind resistance against him, thus rendering any psychological influence absolutely impossible.

[illegible] In this phenomenon we see the expression of a tendency to give more than the instruction asks [illegible] expects. This [illegible] also betrays itself in other features of the [illegible]tion.

[illegible]	[illegible] home
[illegible]	[illegible]
pl[illegible]	[illegible] it? do you mean it symbolically?
[illegible]	[illegible] edge.

[illegible] These cases show that the subject is [illegible] past the experiment. [illegible] answer [illegible] the first word [illegible] He [illegible] two words [illegible] an excessive [illegible] personally [illegible] The subject [illegible] presented [illegible]

[illegible] This elementary observation illustrates [illegible] patients [illegible] allowing themselves [illegible] characteristic [illegible]

[illegible] Yet another sign [illegible] The [illegible] This [illegible] experiment. The [illegible] repeated [illegible] personal [illegible] from errors as the additions to the reaction.

[illegible] In many experiments one observes that the same reaction [illegible] in response to the most varied stimulus words. These words seem to [illegible] what [illegible] I have [illegible] a case [illegible] word [illegible] sense. [illegible] the word [illegible] He was the youngest [illegible] was very [illegible] Short [illegible] confidence. [illegible] study, he could not make up his mind to sit for an examination. He finally became impotent and sank into a psychosis in which, whenever he was alone, he took great pleasure in walking about his room on his toes in order to appear taller. The word *short*, therefore, stood to him for a great many painful experiences. This is usually the case with perseverated words; they always express something very important in the individual psychology of the subject.

956 The characteristics so far described are not scattered at random throughout the experiment but are found at very definite points, namely where the stimulus words hit upon emotionally charged complexes. This fact is the foundation of what is called the *diagnosis of evidence*, i.e., the art of detecting, by means of an association experiment, the real culprit among a number of people suspected of a crime. That this is possible I will demonstrate by a brief account of an actual case.

957 On February 6, 1908, our matron informed me that one of the nurses had complained to her that on the previous afternoon she had been robbed. Here are the facts: The nurse had her money, which amounted to seventy francs, in a purse that she kept in her clothes-cupboard. The cupboard had two compartments, one belonged to the nurse who had been robbed and the other to the charge nurse. These two nurses slept in the same room with the cupboard, together with a third nurse, who was an intimate friend of the charge nurse. The room was in a section of the hospital where normally six nurses were on duty, and these could go into the room and use it if they wanted to. In view of this situation it was not astonishing that the matron shrugged her shoulders when I asked her whom she suspected in the first place.

958 From further investigation it appeared that on the day of the theft the friend of the charge nurse had stayed in bed the whole morning because she did not feel very well. According to the evidence of the first nurse, the theft must have taken place during the afternoon. Among the other four nurses on whom suspicion might fall, there was one who regularly

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[illegible]

[illegible] can [illegible] the [illegible] nesses were [illegible] had [illegible] been in the room for whatever reason

959 I [illegible] that the last [illegible] were [illegible] the time being [illegible] suspect I therefore first subjected the first three to the experiment

960 [illegible] the particulars [illegible] the case [illegible] knew [illegible] board was [illegible] he [illegible] that [illegible] the first thing [illegible] was [illegible] and [illegible] space [illegible] dark red [illegible] the [illegible] sister [illegible] a scal [illegible] and a receipt from the [illegible]

[illegible] nurse [illegible] the nurse knew [illegible] the nurse [illegible] had [illegible] bed [illegible] first [illegible] she had [illegible] the money [illegible] the charge [illegible] her [illegible] the charge [illegible] the smallest [illegible] of the case [illegible] the [illegible] because she was [illegible] most [illegible] pe[illegible] The [illegible] experiment [illegible] as far as the [illegible] nurses were [illegible] some of [illegible] in the particulars [illegible] some of [illegible] a robbery [illegible] critical [illegible] I chose [illegible] the [illegible] and [illegible] deferred to the [illegible] I also [illegible] have [illegible] special [illegible]

[illegible] Against [illegible] of this last [illegible] objected that they [illegible] a strong [illegible] charge [illegible] and that there is [illegible] with them We still [illegible] have [illegible] an innocent person [illegible] charge [illegible] the same effect on the associations as it has [illegible] a question that [illegible]

[illegible] general experience. I [illegible] On the contrary, [illegible] I maintain that words of this class can also produce useful results.

984 I next distributed these critical stimulus-words among ordinary stimulus-words, so that to each critical word there were two ordinary ones. It is an advantage for the critical words to be followed by ordinary words, so that the action of the former is clearly distinguished. However, also one can let one critical word follow another, especially if one wants to show up especially the importance of the second. Therefore I put together *dark-brown* and *red-brown*, as well as *chain* and *silver*.

985 After these preparations I started the experiment on the three nurses. Since it is difficult to present investigations of this kind in a foreign language, I cannot give a full report, but I will confine myself to giving an account of the general results and adding some examples. First I submitted the friend of the charge nurse to the experiment; considering the circumstances, she seemed to be only slightly upset. I next examined the charge nurse herself, who seemed to be possessed by considerable agitation, and who immediately after the experiment still had a pulse rate of 120 per minute. Last of all I went with the nurse who was responsible for [illegible] the room where the theft had taken place. She was the calmest of the three; she was only slightly embarrassed, and only in the course of the experiment did she realize that she was a possible suspect, [illegible] experiment [illegible] disturbed her.

986 The general impression of the examination spoke very much against the charge nurse. She seemed to me to show a suspicious reserve; I would even say impudence. With the intention of finding her guilty I applied myself to the calculation of the results.

987 One can use many methods of calculation, but they are not all equally good and equally exact. One must always [illegible] to a certain degree [illegible] calculation, because appearances are very deceptive. The method most to be recommended is that of the probable mean of the reaction times. It gives one a measure of the resistances that the subject of the experiment has had to overcome in reacting.

[illegible] this [illegible] is very simple [illegible] the [illegible] is the [illegible] middle [illegible] series [illegible] are [illegible] [illegible] 7 [illegible] 8 [illegible] the [illegible] is the probable mean [illegible] this series. [illegible] large [illegible] letter A [illegible] large [illegible] letter B [illegible] the [illegible] letter C.

The probable means of the [illegible] are A [illegible] B [illegible] C [illegible]. From [illegible] results [illegible]

The means [illegible] the reaction-times [illegible] special significance for the [illegible] reactions [illegible] separated [illegible] however, of greater interest.

Probable Means of the Reaction-times

	A	*B*	*C*
Neutral reactions	10.0	11.0	12.0
Critical reactions	[illegible]	[illegible]	[illegible]
Post-critical reactions	[illegible]	[illegible]	[illegible]

Here [illegible] result [illegible] A [illegible] the [illegible] mean of the reaction [illegible] the neutral reactions [illegible] the other [illegible] the [illegible] reaction-time for the critical reactions.

The difference between the reaction-times [illegible] the neutral reactions and critical reactions [illegible] A [illegible] B [illegible] C [illegible] A [illegible]

By calculations similar [illegible] we have made [illegible] we can work out [illegible] complex [illegible] reactions.

Mean [illegible] the Complex-characteristics [illegible] All Reactions

	A	B	C
Neutral reactions	0.6	0.9	0.8
Critical reactions	1.5	0.9	1.2
Post-critical reactions	0.6	1.0	0.8

The difference between the neutral and the critical reactions is [illegible] 7 for A, [illegible] for B, and [illegible] for C. A therefore leads

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[4] [The reaction-times are always given in fifths of a second.]

[illegible] The [illegible] incorrect reproductions. The results of [illegible] per cent [illegible] A, [illegible] per cent for B, and [illegible] per cent for C. [illegible] A remains the maximum [illegible] I begin to see [illegible] however, set out here the reasons why I [illegible] emotional complexes, since this [illegible] the scope of the present investigation. I therefore refer the reader to my paper [illegible] Reproduction in the Association Experiment [illegible]

[illegible] It [illegible] in the experiment [illegible] a strong [illegible] in the sense that [illegible] reproduced. It is therefore interesting to see what one finds if one arranges these associations in a series. The [illegible] are [illegible] per cent for A, [illegible] per cent for B, and [illegible] per cent for C.

[illegible] Here again we find that A has the largest percentage. This may be partly due to the fact that A also has the largest number of incorrect reproductions [illegible] the small number of reactions [illegible] the number of incorrect reproductions in a group increases in proportion to the total number of reactions. [illegible] is probable [illegible] the same extent [illegible] B and C [illegible] smaller number of incorrect reproductions than A. It is significant that C, [illegible] comparatively [illegible] the [illegible] incorrect reproductions in a series.

[illegible] Since incorrect reproductions are [illegible] complex [illegible] we need to find out how the incorrect reproductions [illegible] neutral reactions, critical reactions, and [illegible]

Incorrect Reproductions

	A	B	C
Neutral reactions	16.0	18.0	11.0
Critical reactions	19.0	9.0	12.0
Post-critical reactions	5.0	7.0	7.0

[illegible] emphasize the differences between neutral reactions and critical reactions [illegible]

956 In this case, of course, the larger the number of critical reactions, the greater is the probability of a large number of incorrect reproductions. Supposing that the incorrect reproductions are distributed evenly and at random among all the reactions, then there will be a greater number for A compared with B and C as a reaction to critical words, since A has the largest number of incorrect reproductions. Assuming such a uniform distribution of incorrect reproductions, we can easily calculate how many of them belong to each single class of reaction.

Incorrect Reproductions

	Probable Expectation			Actual Numbers		
	Neutral Reactions	Critical Reactions	Post-crit. Reactions	Neutral Reactions	Critical Reactions	Post-crit. Reactions
A	11.2	*10.5*	10.8	10.0	*19.0*	5.0
B	9.8	*10.3*	8.4	12.0	9.0	7.0
C	9.9	*11.1*	9.0	11.0	*12.0*	7.0

957 From this table it appears that the disturbances of reproduction in the critical reactions of A greatly exceed the expectation, whereas for C the figures are only a little above expectation, and for B the actual number is smaller.

958 All these data are calculated to show that in subject A the critical stimulus-words have acted with the greatest intensity, so that the maximum suspicion falls on A. One could venture to designate this subject as the presumptive culprit. That same evening she made a full confession of the theft, and thus confirmed the success of the experiment.

959 I maintain that a result so obtained is scientifically very interesting and worthy of discussion. In experimental psychology there are many much less useful things than those with which we are dealing in this paper. Completely disregarding the theoretical interest, we have to take into account the not inconsiderable practical result: we have unmasked the culprit without the usual detective methods, merely by taking the shortest route. What was possible in one or two cases should be possible in others, and it is well worth while to explore every conceivable way of making this method yield rapid and reliable results.

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[5] See the appendix at end of para. [illegible] ff., where the discussion of this case continues.

[illegible] This application of the experiment shows that it is possible to [illegible] upon a concealed [illegible] unconscious [illegible] by means of a stimulus-word. Conversely, we may therefore assume that behind a reaction showing a complex-indicator there is a complex hidden, even though the subject may strongly deny it. One must get rid of the idea that people with a good education and some insight are always able to recognize and admit their own complexes. Every human mind contains much that is not admitted and hence is unconscious, and no one can boast that he stands completely above his complexes. He who does persist in saying that he can is not aware of the spectacles upon his own nose.

◆

[illegible] It was long ago believed that the association experiment enables one to distinguish certain *intellectual types*. That is not the case; the experiment does not give us any special insight into the [illegible] intellectual processes but rather into emotional ones. To be sure, we can establish certain types of reaction; they are not, however, based on intellectual peculiarities but depend on *emotional attitudes*. Educated subjects usually show superficial and [illegible] verbal associations, whereas the uneducated mostly produce more valuable and often meaningful associations. This behaviour would be, from an intellectual point of view, paradoxical. The associations of the [illegible] uttered by uneducated people are not really the [illegible] of intellectual thinking, but merely those of a particular emotional attitude. The whole thing is more important to the uneducated, his emotion is greater, and for that reason he pays more attention to the experiment than the educated person, and his associations are therefore more [illegible]. Apart from those determined by a particular type of education, we have to consider four principal individual types:

1. An *objective type* with undisturbed reactions.
2. What is called a *complex type* showing many disturbances in the experiment caused by the constellation of a complex.
3. What is called a *definition type*. This type always reacts with an explanation or a definition of the content of the stimulus-word, e.g.

apple	a tree-fruit
table	a piece of household furniture
to go for a walk	an activity
father	head of the family

985 This type is usually found among stupid people, and it is therefore common among imbeciles. It can also be found in people who are not really stupid, but who do not want to be taken as stupid. Thus a young student, whose associations were recorded by an older, intelligent woman student, gave these very definitions. The subject was under the impression that it was an intelligence test, and therefore focussed principally on the meaning of the stimulus-words, so his associations resembled the definitions of an idiot. Not all idiots, however, react with definitions; probably only those who would like to appear more intelligent than they are, that is, those to whom their stupidity is painful. We call this widespread complex the "intelligence-complex."

986 This type of reaction is [illegible] of [illegible] progress. They seem to be trying too hard:

anxiety	oppression of the [illegible]
to kiss	love's release
to kiss	experience of friendship, etc.

These subjects want to be more than they are, and to exert more influence than they really have. Hence we see that people with an intelligence-complex are in general far from simple and free; that they are always somehow unnatural and affected; that they show a predilection for complicated, foreign words, high-sounding quotations, and other intellectual ornaments. It is in this sense that they want to influence their fellow men, to impress others with their apparent education and intelligence, and thus to compensate for their painful feeling of stupidity.

988 Closely related to the definition type is the predicate type, or, to express it more precisely, the evaluating predicate type. For example:

flower	beautiful	knife	dangerous
money	pleasant	death	ghastly
animal	ugly		

In the definition type it is the intellectual significance of the stimulus-word that is emphasized, but in the predicate type it is its emotional significance. There are predicate types which greatly exaggerate, whose reactions may be such as these:

piano	horrible
to sing	heavenly
mother	deeply loved
father	something good, noble, holy

958 In the definition type an extremely *intellectual* attitude is manifested, or rather simulated; here we have an attitude that is *full of feeling*. Yet just as the definition type really means to conceal a lack of intelligence, so the exuberant expression of feeling conceals or overcompensates a *deficiency of feeling*. This conclusion is illustrated in a very interesting way by the following discovery: Investigations of the influence of the family environment on association types reveal that young people seldom belong to the predicate type; in fact, the frequency of the predicate type increases with age. In women the increase of the evaluating predicate type begins a little after the fortieth year, and in men after the sixtieth. That is just the time when, owing to the decline of sexuality, considerable loss of feeling is in fact suffered.

959 If a subject shows a distinct predicate type, one may always infer that a marked deficiency of feeling is thereby compensated. One must not, however, conclude conversely that a deficiency of feeling must produce a predicate type, any more than that imbecility directly produces a definition type. A predicate type can also betray itself through external behaviour, as for example through marked affectation, enthusiastic exclamations, a certain genteel, stilted demeanour, and the affected language so often observed in "society."

960 The complex type shows no particular tendency unless it be the effort to conceal complexes, which remain behind the characteristics of the experiment. The definition and predicate types betray a definite tendency to exert some influence on the experimenter. The definition type tries to make an impression through its intelligence; the predicate type displays its emotions. I need hardly add how important such observations are for the diagnosis of character.

961 Having finished the association experiment, I usually add

another experiment of a different kind, which I call the reproduction experiment. I repeat the same stimulus words and ask the subjects whether they still remember their former reactions. In many instances the memory fails, and as experience shows, such failures are, as might be expected, stimulus words which touched an emotionally accentuated complex, or stimulus words immediately following such critical words.

952 This phenomenon has been called paradoxical and contrary to all experience. For it is known that feeling-toned matters are better retained in memory than things of no special significance. This is very true, but it does not hold for the linguistic expression of a feeling-toned content. On the contrary, one very easily forgets what one has said under emotion, one even is apt to contradict oneself about it. Indeed, the efficacy of cross-examinations in court depends on this fact. The reproduction method therefore serves to emphasize the complex stimulus still more. In normal persons we find a limited number of false reproductions, not more than 19–20 per cent, while in abnormal persons, especially hysterics, we often find from 20 to 40 per cent of false reproductions. The reproduction certainty is therefore in certain cases a measure of the emotivity of the subject.

953 Most neurotics show a pronounced tendency to cover up their intimate affairs in impenetrable darkness, even from the doctor, so that he finds it very difficult to form an adequate picture of his patient's psychology. In such cases I am greatly assisted by the association experiment. When the experiment is finished, I first look over the general trend of the reaction times. I see a great many very prolonged times; this means that the patient can only adjust himself with considerable disturbance.

954 His psychological functions go on with marked internal frictions, with resistances. Most neurotics react only with great and therefore very definite resistances; there are, however, others in whom the average reaction times are as short as in normal subjects, and in whom the other complex-character is lacking, although neurotic symptoms are undoubtedly present. These rather rare cases are found especially among very intelligent and [illegible] people who after many years of practice have learned to control their outward behaviour and therefore display very few if any traces of their

[illegible] superficial observation [illegible] for normal, yet at some points they show disturbances that betray the repressed complex.

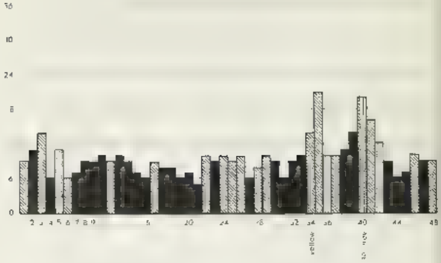
[illegible] After investigating [illegible] a predicate type [illegible] have [illegible] in general [illegible] to determine the [illegible] complexes. With the necessary experience [illegible] degree [illegible] certain [illegible] knowledge of [illegible] can read [illegible] the results of the experiment. I first [illegible] the greatest [illegible] cases [illegible] these [illegible] In some cases [illegible] by means of a concrete example:

[illegible] The [illegible] years of age [illegible] three years. Since her marriage she had suffered [illegible] states [illegible] The marriage was [illegible] gave [illegible] grounds [illegible] was sure [illegible] and that the agitated states were absolutely groundless. [illegible] Roman Catholic and had been brought up [illegible] whereas her husband was a Protestant. This difference of religion [illegible] revealed [illegible] present [illegible] sister [illegible] the sexual [illegible] the greatest [illegible] She never undressed in her husband's presence [illegible] twenty-seven she was surprised [illegible] Fig. 8.

[illegible] strong [illegible] test [illegible]

[illegible] the strongest [illegible] complexes [illegible] happy [illegible] These are the [illegible] words [illegible] complex [illegible] from this [illegible] that she was not [illegible] different [illegible] and was a Protestant [illegible] that she [illegible] thinking [illegible] happy [illegible] she [illegible] The patient therefore has [illegible] complex [illegible] with her marriage [illegible] When I [illegible] her [illegible] result she was [illegible] shaken and [illegible] a great deal of hysteria [illegible] consisting of fantasies [illegible] being [illegible] against [illegible] husband and [illegible] Her prudishness and jealousy were merely a [illegible] sexual wishes [illegible] She [illegible] husband because [illegible] fantasy and could not admit it to herself.

998 It is impossible [illegible] to give a review [illegible] the practical applications [illegible] association experiment [illegible] giving [illegible] you at least the main points.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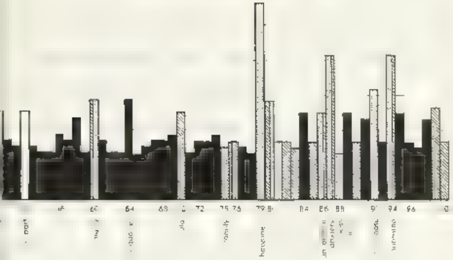
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THE FAMILY CONSTELLATION[1]

999 *Ladies and Gentlemen.* As we have seen, there are many different ways in which the association experiment may be used in practical psychology. I should like to talk to you today about yet another use of this experiment, one that is in the first place of merely theoretical importance. My pupil, Doctor Fürst, made the following investigations: she applied the association experiment to twenty-four families consisting altogether of one hundred subjects. The resulting material amounted to some 22,000 associations. This material was processed as follows:

1000 Fifteen clearly defined groups were formed according to logical-linguistic criteria and the associations were arranged as follows:[3]

	Husband	Wife	Difference
I. Co-ordination	6.5	0.5	6
II. Sub- and supraordination	7		7
III. Contrast	–	–	

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[1] For [illegible] see [illegible] "The Association Method." This lecture has also been [illegible] the German [illegible] the [illegible] family constellation [illegible] rendered as [illegible] in the 1909, 1910, and 1911 publications.

[illegible] previous [illegible] Association [illegible] "Tavistock Lectures," Lecture III, 1968 edn., pp. 84ff.

[2] Emma Fürst, M.D., [illegible] Associations [illegible] (orig. 1907).]

[3] The paragraph here [illegible] Association [illegible] Paris [illegible] are here reproduced from [illegible] translation [illegible] present translation.]

iv	Predicate expressing a personal opinion	[illegible]	[illegible]	[illegible]
v	Simple predicate	21.0	5.5	15.5
vi	Relations of the verb to the subject or complement	15.5	0.5	15.0
[illegible]	Designation of time, etc.	[illegible]		[illegible]
viii	Definition	[illegible]		1.0
ix	Coexistence	1.5		1.5
x	Identity	0.5	0.5	—
xi	Motor-speech combination	[illegible]		2
xii	Composition of words	—	—	—
xiii	Completion of words			
[illegible]	Clang associations	—	—	—
xv	Defective reactions			
	Total			173.5

174.5 [illegible]

Average difference [illegible]

15

As [illegible] seen from this example, I analyze the [illegible] demonstrating the degree of the analogy. In order to [illegible] for the [illegible] resemblance I have [illegible] the differences among all Dr. Fürst's subjects not related and [illegible] sexes by comparing every female subject with all the [illegible] related females [illegible] comparison has been [illegible] the male subjects.

The [illegible] difference is found in those cases where the two [illegible] compared [illegible] reaction qualities in [illegible]. [illegible] groups are [illegible] in percentages, the greatest difference possible being [illegible] per cent.

I. The average difference of male [illegible] related subjects is [illegible] per cent, and that of females of the same group is [illegible].

II. The average difference between male related subjects is [illegible] per cent, and that between female related subjects is [illegible] per cent. From these numbers we see that relatives show a tendency to agreement in the reaction type.

III. Difference between fathers and [illegible] children 4.2

mothers [illegible] 3.5

The reaction types of the children come nearer to the type of the mother than to the father.

IV. Difference between fathers and their sons [illegible]

" " " daughters [illegible]

mothers " " sons 4.7
" " " " " daughters 3.0

V. Difference between brothers 4
" " sisters 3

If the married sisters are omitted from the comparison we get the following result:

Difference of unmarried sisters = 3.8

These observations show distinctly that marriage destroys more or less the original agreement, as the husband belongs to a different type.

Difference between unmarried brothers = 4.8

Marriage seems to exert no influence on the association forms of men. Nevertheless, the material that we have at our disposal is not as yet enough to allow us to draw definite conclusions.

VI. Difference between husband and wife = 4.7

This number sums up inadequately the differences and very unequal values; that is to say, there are some cases which show an extreme difference and some which show a marked concordance.

[illegible] The different results are shown in the graphs (Figs. 1–5). In the graphs I have marked the number of associations of each quality perpendicularly in percentages. The Roman numbers written horizontally represent the forms of association indicated in the table above.

Fig. 1. The father (solid line) shows an objective type, while the mother and daughter show the pure predicate type with a pronounced subjective tendency.

Fig. 2. The husband and wife agree well in the predicate objective type, the predicate subjective being somewhat more numerous in the wife.

Fig. 3. A very fine agreement between a father and his two daughters.

Fig. 4. Two sisters living together. The dotted line represents the married sister.

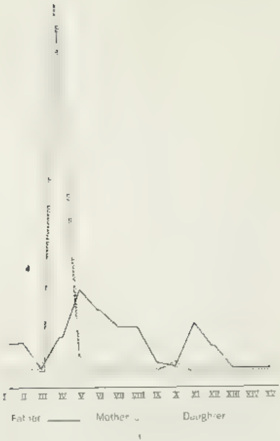
Fig. 5. Husband and wife. The wife is a sister of the two women of Fig. 4. She approaches very closely to the type of her husband. Her tracing is the direct opposite of that of her sisters.

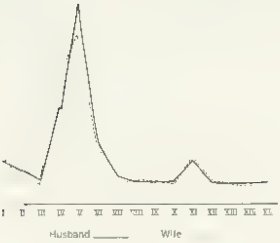
1004 [illegible] the words [illegible] associations [illegible] related subjects [illegible] even [illegible]. I will give you the associations of a mother and daughter:

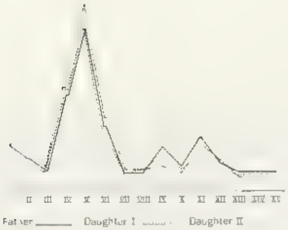
Stimulus-word	*Mother*	*Daughter*
to pay attention	hard-working	pupil
law	God's commandment	Moses
dear	child	father and mother
great	God	father
potato	tuber	tuber
family	many people	five people
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	d[illegible]
to kiss	mother	mother
a burn	great pain	painful
door	wide	big
hay	dry	dry
month	many days	3[illegible] days
air	cool	moist
coal	sooty	black
fruit	sweet	sweet
merry	happy child	little c[illegible]
etc.	etc.	etc.

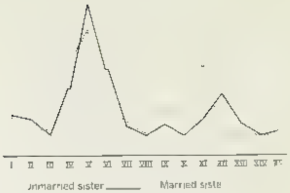
1005 One might almost think that [illegible] this experiment, where the [illegible] is given [illegible] the [illegible] personality [illegible] would become a matter of the utmost importance and that there [illegible] nothing [illegible] expect [illegible] agreement in association. But as we have seen, the opposite is the case. The daughter shares her mother's way of thinking, not only in her ideas but also in her form of expression, so that she even uses the same words. What is more free, more [illegible] than a passing thought? [illegible] consequent, however, [illegible] strongly determined [illegible] the [illegible]. If therefore even the most superficial and apparently fleeting mental images are [illegible] the environment, what must we not expect to be the more important mental activities, [illegible] emotions, wishes, hopes and intentions [illegible] example [illegible] illustrated by Fig. 1.

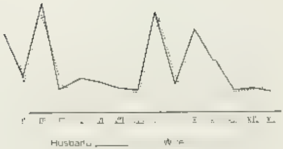
1006 The mother is forty-five years old and the daughter sixteen. Both are very [illegible] evaluating predicate types and [illegible]. Her


I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
XIII
XIV
XV
Father
Mother
Daughter


I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
XIII
XIV
XV
Husband
Wife


II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
XIII
XIV
XV
Father
Daughter I
Daughter II


I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
XIII
XIV
XV
Unmarried sister
Married sister


XIV
XV
Husband
Wife

from the father in the most striking manner. The father is a drunkard and a [illegible] person. [illegible] her [illegible] the first [illegible] in the second [illegible] and [illegible] It [illegible] nature [illegible] She [illegible] the environment [illegible] But [illegible] to some extent [illegible] does not apply [illegible] her mother's pattern. [illegible] It [illegible] natural [illegible] like another woman who is disappointed [illegible] types every expression [illegible] If such [illegible] responding [illegible] become [illegible] and [illegible] a biological significance, that is, they serve a protective [illegible] If we [illegible] we can be sure that we shall [illegible] others. That [illegible] experience [illegible] type. What [illegible] woman [illegible] love [illegible] her [illegible] she seeks [illegible] and [illegible] Christian Science [illegible] she [illegible] a girl of sixteen [illegible] very dangerous [illegible] her mother [illegible] sympathy for her suffering [illegible] danger [illegible] mother [illegible] sees herself [illegible] exposed [illegible] ing a brute and inebriate like her father.

[illegible] seems to me important. For the [illegible]

[illegible] The examples show [illegible] from one another [illegible] parents [illegible] undeveloped [illegible] parental affective states [illegible] parents and teachers. The [illegible] between the [illegible] secret [illegible] [illegible] the same [illegible] [illegible] We all know [illegible] people we must [illegible] A restless [illegible] even more [illegible] the more sensitive [illegible] deeper the impression. [illegible] A child imitates gestures, and just as the parents' gestures are the expressions of their emotional states, so [illegible] the gesture gradually produces an emotional state in the [illegible] as it makes the gesture his own. His adaptation [illegible] the same as his parents'. [illegible] he goes [illegible] parents. [illegible] very [illegible]

[illegible] as separate [illegible] his parents. [illegible] very special [illegible]

[illegible] walk with his parents.

[illegible]

[illegible] conscious tendency [illegible] insane people. Where did [illegible] strange [illegible] some time. Her father was an excellent man, and in his later years was completely alienated from his family. Her love had therefore been displaced from her father on to a brother eight years her senior, whom she loved and honoured as a father. At the age of fourteen this brother became hopelessly insane. This was apparently the last blow from which the patient could never free herself, according to what she herself [illegible] and during which she was made [illegible] unhappy. The particular form of her illness [illegible] give the impression [illegible] naturally arose from this [illegible] pattern. We must take into consideration that in this case we are dealing with a highly educated and intelligent woman who was [illegible] to her inner experiences, who indeed pondered a great deal over her unhappy state, who, however, [illegible] idea of what caused her misfortunes.

1004 This is the kind of thing that we almost always tacitly take for granted in ourselves. For this very reason we cannot see what is going on, but put the blame on what we think of as our innate character. I could give a number of other examples. Patients constantly misplace or [illegible] the determining influence of the family background on their destiny. However, in [illegible] one can see how the emotional environment constellated during childhood influences not only the character of the neurosis but also the patient's destiny, even down to its very details. Many an unhappy choice of profession and disastrous marriage can be traced to such a constellation. There are, however, cases where the profession has been well chosen, where the husband or wife leaves nothing to be desired, and still the patient feels uneasy and lives and works under constant difficulties. Such cases often appear to be chronic neurasthenics. Here the difficulty is that the mind is unconsciously split into two parts of divergent and conflicting tendencies; one part lives with the husband or the profession, while the other lives unconsciously in the past with father or mother. I have treated a woman who suffered for many years from a severe neurosis which [illegible] The [illegible] began with her marriage. Her husband was kind, [illegible] in every respect suitable for her; his character showed nothing that should in any way interfere with a happy marriage. The marriage was nevertheless unhappy [illegible] all easy [illegible] was [illegible] the wife [illegible] every [illegible] clearly shows that she has strong [illegible] and negative attitudes towards [illegible] is an [illegible] that drives her away from [illegible] In [illegible] the [illegible] the parents. Every [illegible] her [illegible] refuses [illegible] is always the [illegible] the father. Certainly [illegible] analysis.

Here is the history of our patient. The [illegible] was [illegible] personality. She was [illegible] At the age of seventeen she fell in love with a young man. [illegible] the same dream [illegible] expression [illegible] she ever [illegible] a vision [illegible] meaning [illegible] religious [illegible] she saw a tall [illegible] figure with a very [illegible] white beard. At the sight of [illegible] with a feeling of awe [illegible] she were experiencing the presence of God himself. This dream made the deepest possible impression on her, and she was [illegible] ever after. [illegible] a serious [illegible] Later she [illegible] present [illegible] Though she loved her husband she was always [illegible] comparing him with her father [illegible] against her husband. Whatever the husband [illegible] eager [illegible] always [illegible] the same [illegible] My father [illegible] differently [illegible] She [illegible] her respect [illegible] disappointed and [illegible] gradually [illegible] developed strong religious feelings [illegible] the marked hysterical symptoms arose. She began [illegible] sentimental attachments [illegible] clergyman [illegible] and [illegible] she was looking everywhere for a [illegible]

[illegible] pregnant [illegible] abuse.

[illegible]

[illegible]

[illegible]

"Analysis of a Phobia in a Five-Year-Old Boy" (orig. 1909).

[illegible]

II

PSYCHOPHYSICAL RESEARCHES

ON THE PSYCHOPHYSICAL RELATIONS OF THE ASSOCIATION EXPERIMENT[1]

[illegible] At the second German Congress for Experimental Psychology, [illegible] Ap[illegible] Dr. V[illegible] [illegible] at Zur[illegible] upon a galvanic [illegible] [illegible] The [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] current [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] experiments [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] feeling-tone. Of great interest is [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the stimulus [illegible] after a latent period of one to six seconds.

[illegible] Veraguth observed [illegible] [illegible] [illegible] [illegible] after [illegible] the stimulus [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] From [illegible] observations Veraguth [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

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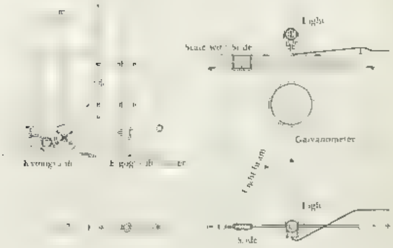
[1] [illegible]

[illegible] Veraguth takes photographs of the curve of the mirror's movements on a moving film, but this method is rather difficult and expensive, and only short curves can be obtained, while for the graphic representation of feeling-tone curves are desirable. I have therefore constructed an apparatus by means of which curves of more than forty to sixty feet can be taken. In such considerable periods of time many and different experiments can be made without difficulty.

[illegible]18 The principle of my apparatus is as follows: I add to the scale a movable slide with a visor. The slide, pushed forward by the hand, always follows the moving mirror-reflection. After some practice this manœuvre can be made very easily and exactly. To the slide is fastened a cord leading to what is called an ergograph writer, which marks the movements of the slide on a kymographion, furnished with endless paper, upon which the curves are drawn by a pen point (see illustration).



Ergograph Writer

For measuring the time one may use a Jaquet chronograph and for marking the moment, a [illegible] or a voice-marker.

1045 With these instruments I have also taken curves, which are especially valuable for representing feeling-tones aroused by the association experiment.

1046 As is perhaps already known, I have recently demonstrated in the Diagnostic Association Studies that [illegible] feeling-tones often accompany the associations and cause characteristic irregular disturbances in the association process. I conduct the experiment as follows: I call a series of stimulus-words and tell the subject to answer as quickly as possible by saying the first word that comes into his mind. I measure the time elapsing between the stimulus-word and the reaction. The reaction-time. Having done a rather large number of reactions, about one hundred, I then make the subject repeat one by one the answers to the stimulus-words. This I call the reproduction method. What we learn during such an experiment I shall illustrate by an example.[2]

Stimulus-word	Reaction	Reaction-time sec.	[illegible]	Reproduction
head	hair	1	4	+
green	meadow	1	6	+
water	deep	5		swim
stab	knife	1	6	+
long	table	1	2	+
ship	wreck	3	4	steamer
question	answer	1	6	+
wool	knit	1	6	+
insolent	gentle	1	4	+
lake	water	4		blue
ill	well	1	8	+
ink	black	1	2	+
swim	know	3	8	water

---

[1] Cf. the paper [illegible] August Hoch [illegible]

[2] [illegible] the column heading has been corrected.

[illegible] In analysing the reactions of this subject we find at first sight nothing remarkable. She has, with [illegible] few exceptions, [illegible] short reaction-times, and there are also a few [illegible] reproductions. [illegible] on looking closer we discover that the reactions [illegible] were followed by a rather long [illegible] we observe that with these reactions the following [illegible] is [illegible]

[illegible] So far as we [illegible] we may suppose that the words [illegible] feelings [illegible] the reproduction [illegible] The reactions also caused [illegible] the feelings arising [illegible] are generally [illegible] we are [illegible] to suppose [illegible] stimulus-words gave rise to a complex of ideas having some relation [illegible] possessing great importance [illegible] the subject [illegible] tells us that [illegible] while [illegible] going through [illegible] experiences [illegible] began to [illegible] an untimely end.

[illegible] The complex [illegible] strong feelings are attached [illegible] complexes [illegible] the experiment [illegible] Hence the association experiment is a good means of [illegible] analysing the personality. [illegible] some German authors this method should be used [illegible] complexes [illegible] criminals [illegible] At the present time many experiments are being carried out [illegible] these experiments have been of great scientific interest [illegible] have [illegible] practical results [illegible] value.[4]

[illegible] With this experiment, however [illegible] expressed [illegible] are they [illegible] these disturbances [illegible] of complexes. In reply [illegible] we may say [illegible] the [illegible] being [illegible] In this [illegible] suggest that the interpretation [illegible] after [illegible] scheme. The [illegible] found [illegible] the meaning [illegible] interpretation. The [illegible] answered [illegible] may easily make a wrong suggestion and [illegible] and especially [illegible] interpretation has been made concerning [illegible] means [illegible] help [illegible] the complex and its feeling-tone [illegible] itself. The "galvanic psychophysical reflex" would seem to be such a means.

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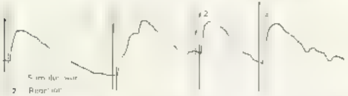
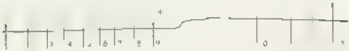
[4] See bibliography at end of this article

216. By representing [illegible] the galvanometric curves during the association experiment [illegible] very great interest [illegible] and I wish to give some few examples. The [illegible] strokes indicate the moment at which the stimulus word was given. It can be seen that [illegible] after the pre-



ceding reaction the curve quickly rises and then slowly falls again. In this case every reaction is succeeded by a [illegible] of the galvanometer. I have a special [illegible] the sensitiveness of the apparatus [illegible] most intense feeling-tones influence the [illegible] so that [illegible] small [illegible] very [illegible] rises that show the strong feeling-tone in a special [illegible] manner. The following is such an example



In the beginning we see the curve making its way horizontally with very few irregularities. In this phase come the following eight reactions:

1.	hot	cold	5.	mouth	teeth
2.	hand	foot	6.	wake	wake up
3.	apple	fruit	7.	drink	eat
4.	naughty	angry	8.	bed	sleep

These reactions show nothing of interest; the feeling-curve accordingly goes in a horizontal line:

9.	pretty	not pretty	11.	to call on	not to call on
10.	danger	no danger	12.	workman	workwoman

1028 These reactions are obvious:

1. The first three are uttered in two words, which is, as a rule, unusual with this subject.

2. There are also among the first part contrasting associations that are not easily intelligible.

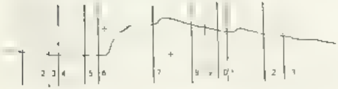
A striking perseveration in the negative reactions is to be seen, beginning with *not pretty*. The *workman—workwoman* is rather a superficial association.

1029 It is evident that this strange phase takes its origin in *pretty*. On the curve we can see, beginning with the reaction *not pretty*, the appearance of a strong feeling-tone that lasts for a long time and disappears only with the last reaction. The linguistic perseveration (*not pretty, no danger, not to call on*) is therefore connected with a feeling lasting probably through the same period.

1030 I had suspected from the beginning that the young man had a sweetheart. He told me that he had been married the week before. I put it by asking him whether his wife were pretty. He very characteristically replied: "Other people do not find her very pretty, but for me she is quite pretty enough." From this it is evident that the word *pretty* has hit upon a sore point.

1031 The next curve illustrates a very interesting case. The subject is a young, intelligent, and gentle man of [illegible] years. I knew nothing except the fact of his being an [illegible].

1032 In the beginning we see the curve rising slowly, then taking a rather horizontal course until the sixth stimulus-word,



where a sudden steep rise sets in and maintains itself until the thirteenth reaction.

1063 The reactions are as follows:

1. pay	money	4. love	hatred
2. snake	animal	5. help	assist
3. fine	beautiful	6. *restaurant*	*non-alcoholic*

With the sixth reaction the rising of the curve begins. The reaction *restaurant / non-alcoholic* indicates a very individual and complex of ideas. And a very strong feeling seems to be attached to the fact that he is a teetotaler.

1064 The reaction next following is:

7. *polished*	*glass*

accompanied by a new rise of the curve; *glass* might be another association with the *restaurant* complex. The next associations are:

8. soldier	cavalry
9. write	letter
10. looking-glass	clear

which present nothing special and are also graphically uninteresting.

11. *full*	*man*

(The German word *voll*, full, has also the occasional meaning completely drunk.) This association, which distinctly indicates the idea of being drunk, is again accompanied by a rising of the curve. The next association is:

12. intelligence	prudent

[illegible] As things present themselves we may be right in supposing [illegible] there is a complex with strong feelings that has some re[illegible] [illegible] We asked [illegible] esses [illegible] when [illegible] [illegible] Because [illegible] these [illegible] [illegible] as a means [illegible] g his again ge[illegible] [illegible] a similar s[illegible] This confession was [illegible] others as being the truth.

[illegible] As may easily be understood, this event [illegible] lasting impression, deepened by [illegible] has become a great [illegible]

[illegible] These examples may serve to show that the association experiment is, under certain conditions, a [illegible] feeling-tones that accompany the associations. I say under certain conditions [illegible] succeed [illegible] clear and [illegible] cases as those shown above. The experiment possesses numerous complications to overcome [illegible] a great deal of time and work [illegible] There is moreover the [illegible] the physical and physiological part of the experiment [illegible] the work of Tarchanoff, Sticker, Sommer and Veraguth. At the present time Binswanger in Zurich is [illegible] with these researches. I will [illegible] anticipate his work, which he has already finished.[6]

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[6] [illegible] Phenomena [illegible] Association Experiments" [illegible]

* [illegible] will be found in the entries in the volume bibliography.]

1 [illegible] Vorgänge [illegible] der menschlichen Haut" (1906).

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PSYCHOPHYSICAL INVESTIGATIONS WITH THE GALVANOMETER AND PNEUMOGRAPH IN NORMAL AND INSANE INDIVIDUALS[1]

by Frederick Peterson and C. G. Jung

1036 These investigations were carried out in the psychological laboratory of the Clinic for Psychiatry at Zurich, to the director of which, Professor E. Bleuler, we are under obligations for the use of apparatus and material for study. The purposes of the research were to ascertain the value of the so-called psychophysical galvanic reflex as a recorder of psychical changes in connection with sensory and psychical stimuli, to determine its normal and pathological variations, to study the respiratory innervation curve in the same relations, and finally to compare the galvanometric and pneumographic curves taken simultaneously upon the kymograph under the influence of various stimuli. In word associations the reaction-time was also registered for further comparison.

I. APPARATUS EMPLOYED

1037 For the respiratory curve we used the Marey pneumograph made by Zimmermann in Leipzig. The kymograph was made by Schulze in Basel, and runs with a weight, making it very steady and noiseless. The stop-watch employed for reaction-time was manufactured by Billian of Zurich.

1038 The use of the galvanometer in experimental psychology is so new and recent as to require a special description and a brief review of the scanty literature of the subject.

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[1] [Originally published in English in *Brain: A Journal of Neurology* (London), XXX (1907) [illegible] appeared the same year as a separate [illegible]. Frederick Peterson ([illegible]), M.D., was then Clinical Professor of Psychiatry, Columbia University, New York. He collaborated with A. A. Brill on the first translation of Jung's *The Psychology of Dementia Praecox* (1909).—For the present version, certain editorial revisions have been made. A list of references originally at the end of the paper has been converted into footnotes.]

The first to discover the influence of mental processes upon the galvanometer was Professor Tarchanoff, who published a paper in *Pflügers Archiv für Physiologie*, 1890, entitled "Galvanic Phenomena in the Human Skin in Connection with Irritation of the Sensory Organs and with Various Forms of Psychic Activity." He employed non-polarizable electrodes connected with the skin at various places, using as contact pads cotton-wool long saturated with saline solution. These were attached to a Meissner and Meyerstein galvanometer. Deviations of the mirror were read through a telescope from a scale three metres distant from the galvanometer. The scale was divided on each side of the zero point into [illegible] and these again into [illegible]. The galvanometer was so sensitive that a nerve current of a frog's sciatic nerve deflected the mirror so much that all the divisions on the scale were passed over. The electrodes were applied at various times to different portions of the body, such as the hands and fingers, feet and toes, the face, the nose and the back. Experimenting thus, he obtained the following results:

(1) Light tickling of the face or ears with a hair brush or a feather produced, after a latent period of from one to three seconds, a deflection of the galvanometer to the extent of the whole length of the scale. The same results were obtained by stimulating the skin with the faradic brush, warm and cold water, and by pricking with a needle. Stimulation of the various other sensory organs, the ear, the nose, the tongue and the eye, affected the galvanometer in a corresponding manner.

(2) The experiment then showed that the actual sensation was not essential to these results, but the representation of the supposed stimulus, the imagination, also brought about similar deviations of the galvanometer. He showed, for instance, that the recollection of some fearful event, or, in general, any kind of strong emotion, produced the same result. The next point of interest recorded by Tarchanoff was that ordinary abstract mental exercise, such as computation, does not affect the galvanometer unless the exercise be accompanied by excitement. He also noted that the moment of expectant attention or anticipation had a marked effect upon the galvanometer. Tarchanoff regarded the phenomena he observed as due to a

[illegible] areas of skin (functional or organic).

[illegible] essential point.

[illegible] stimulation as established by Tarchanoff.

[illegible]

[illegible]

[illegible]

the Deprez-d'Arsonval [illegible] galvanometer [illegible] some results [illegible] August [illegible] experiments [illegible] suggests [illegible] words [illegible] suggested [illegible] his paper [illegible] some [illegible] complex [illegible] different [illegible] He states [illegible] paper [illegible] resistance [illegible] are presented [illegible] Faraday [illegible] charge [illegible] Veraguth [illegible] by formation.

As [illegible] has been [illegible] year [illegible] laboratory of the Psychiatric Clinic in Zurich [illegible] has not yet been published. One

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[1] Veraguth presented his [illegible] results to date for discussion at the second German Congress for Experimental Psychology, Würzburg, 1906, the transactions of which [illegible] published [illegible] year [illegible] See Veraguth, "Le Réflexe psychogalvanique" (1906 and 1907).]

[The following was [illegible] a correspondent [illegible] of Zurich first made known [illegible] galvanometer as a means [illegible] of psychical states. It was at [illegible] by Dr. Veraguth that [illegible]ung began to experiment on his own account.]

[illegible]s Jung has published in the *Journal of Abnormal Psychology* a description of the psychophysical aspects of the association experiments in which the galvanometer was employed, and in this article is a drawing of the apparatus and a description of the [illegible] [illegible] Dr. L. Binswanger, together with Jung, has investigated the [illegible] [illegible] problems presented by the phenomenon; the results [illegible] [illegible] published in a separate paper, though the material and conclusions of that investigation are embodied in this paper.

The apparatus employed by us is as follows: The [illegible] galvanometer of Deprez-d'Arsonval, a transparent [illegible] scale divided into millimetres and centimetres, with a lamp upon it, made by Z[illegible] & Co. of Zurich; the scale being placed one metre from the galvanometer, a movable [illegible] sliding on the scale and connected by a [illegible] with a recording pen writing upon the kymograph; a rheostat to reduce the current when necessary, and one to three [illegible] cells. The electrodes generally used are large copper plates upon which the palms of the hands rest, and [illegible] upon which the soles of the feet may be placed. We have also used jars of hot water for the electrodes, which is of some [illegible] [illegible] practical value when the hands were congested and cold. Occasionally we have employed a [illegible] electrode and a plate of carbon for the other, in which case the [illegible] was [illegible] [illegible] [illegible] provided sufficient current.

II. The Physics and Physiology of the Psychophysical Galvanic Reflex[6]

1046 So far as is known it would seem that the sweat glands are the chief factor in the production of this electrical phenomenon, on the one hand [illegible] under the influence of nervous stimulation, a measurable decrease [illegible] [illegible] the conductivity [illegible] current. Since water contact excludes changes produced by pressure on metal electrodes and blanching of the fingers by the Esmarch bandage excludes changes in connection with the blood supply, [illegible] these factors play but a small part in the deviations of the gal-

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[5] See above, par. 1018.

[6] [illegible] Phenomenon [illegible] Experiment

vanometer. Change of resistance is brought about either by saturation of the epidermis with sweat or by secretion of the sweat gland cells, or perhaps also by intracellular stimulation, or all of these factors may be associated. The path for the centrifugal stimuli to the sweat gland system would seem to be the sympathetic nervous system. These conclusions are based upon facts at present too hazy and are by no means to be considered conclusive. On the contrary there are features presented which are as yet quite inexplicable, as for instance the gradual diminution in the current in long experiments to almost complete exhaustion, when our ordinary experience teaches that resistance should be much reduced and the passing current larger and stronger. This may possibly be due to gradual drying of the skin in contact with the copper plates. This can be obviated by warm water contact or by pressing the copper plates upon warm sand bags. Yet there is still an inviting field for investigation here.

4. Fluctuations of the Galvanometer from Physical Causes

1047 If the hands placed upon the copper-plate electrodes be pressed down firmly, there is a slow increasing deflection of the galvanometer, but only to a minor degree. If the pressure is diminished by the raising of the fingers or by lifting of the palms, there is a small diminution in the amount of current, marked by slight reduction of amplitude in the excursion of the light.

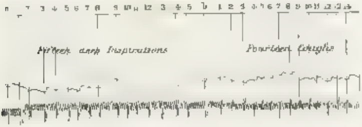

Fig. [illegible]. Curves show effects of deep inspirations and coughing with the galvanometer

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[7] On one occasion with three persons in the circuit and one [illegible], the sudden fall of a weight with loud noise caused a deflection of two cms.

[illegible] We are [illegible] possible [illegible] Certainly [illegible] observe [illegible] repetition [illegible] command [illegible] analogous [illegible] The [illegible] are [illegible] recognized [illegible] experience [illegible] are [illegible] different [illegible] influences [illegible] large [illegible] grows [illegible] decrease [illegible] less [illegible]

[illegible] in Normal Individuals

[illegible] *Expectation.* As soon as the [illegible] experiment begins and [illegible] there is [illegible] expectation [illegible] was [illegible] experiment [illegible] are [illegible] cases [illegible] individuals depending upon [illegible] degree [illegible] Expectation [illegible] beginning [illegible] experiment [illegible] sensory [illegible] strong [illegible] The influence of expectation [illegible] becomes less [illegible] each repetition [illegible] same series [illegible] seems to disappear [illegible] different [illegible] repetition [illegible]

[illegible] first [illegible]

[illegible] *Suggestibilität,* [illegible] 1908.

[illegible] therefore [illegible] until the first influence of the emotion of expectation has subsided.

[illegible]—Regarding the affect of attention, we find that [illegible]

Imagined emotion.—The amount of deflection [illegible] tion to the imagination deviates the galvanometer, such deviation depending naturally upon the capacity of the subject in [illegible] allowing time for concentration upon the idea, and for the [illegible] run on indifferent objects that he saw.

[illegible] *Imagined Conditions*

	Amount of deviation of galvanometer
(1) Expectant attention	
(2) Imagined threat of prick with needle	4.3 cm
(3) Imagined threat of fall of heavy weight	1.6 cm
(4) Imagined grief	2.8 cm.
(5) Thought of an amusing story	1.8 cm
(6) Thought of a painful illness in 1888	1.6 cm

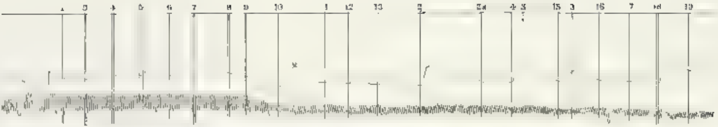
5. [illegible] A series [illegible] and [illegible] sides which word associations were used in connection with the

gal[illegible] In some of the experiments [illegible] was [illegible] an [illegible] connections and signals being [illegible] for this purpose. The following is the series of stimuli:

(1) A loud whistle
(2) Actual fall of a weight with a very loud noise.
(3) Multiply 4 by 5
(4) Multiply 9 by 11
(5) Multiply 8 by 12
(6) Sudden call of subject by name
(7) Where do you live?
(8) What is the capital of Switzerland?
(9) What is the capital of France?
(10) How old are you?
(11) Are you married?
(12) Were you engaged once before?
(13) How long [illegible] at your present [illegible]
(14) Threat of prick with needle [illegible]
(15) Threat of [illegible] heavy weight [illegible]
(16) What is your first name?
(17) What is the first name of your wife?
(18) Is she pretty?
(19) We have now finished.

The series of stimuli were [illegible] to a slight degree [illegible] lapse of time and differences [illegible] but the general character of the stimuli was the same.

These stimuli were ordinarily repeated three times for each [illegible] normal or pathological [illegible] subsequently the series of words [illegible] were given for the word associations. These were also repeated once or twice. From several curves, Fig. 2 (H., nurse, Series [illegible]) is selected as a general illustration of the [illegible] curve. [illegible] was exceptional and in the third series the presence [illegible] are smaller and more [illegible] than in the first and second series. At the same time they serve to show the [illegible] emotional curve. Stimuli [illegible] and [illegible] although [illegible] simple multiplication, produced an [illegible] because H. was a nurse and was embarrassed in doing mental arithmetic before experimenters. Stimuli 8, 9


3
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[illegible]

[illegible] been asked in the preceding series.

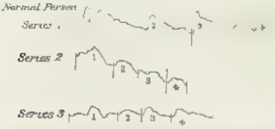

Fig. [illegible] tered the laboratory and caused an extra wave.

[illegible]

Fig. [illegible]

[illegible]

Table 1: Case of [illegible] Diminishing Excursions of [illegible] in Successive Stimulations

Stimuli [illegible]	[illegible]	[illegible]	[illegible]	Where [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series 1	31	8	5	38	4	14	8	27	20	30	22	24
Series 2	14	0	4	8	0	9	6	4	0	05	50+	17.3
Series 3	8	8	4	18	1	5	6	0	0	18	3	8.4

Table 2: Case of G. Diminishing Excursions of Galvanometer in Successive Stimulations

Stimuli [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series 1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series 2	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series 3	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOTE. In th[illegible] not included in the estimate of expect[illegible] [illegible] ess of such expectation

[illegible]

[illegible] ment, whereas before it was a threat only.

[illegible] results [illegible] Nurse B [illegible] Nurse C [illegible] the same series [illegible] P [illegible] R [illegible] the same series [illegible] Nurse H [illegible] the first series [illegible] the second series [illegible] the same [illegible] These figures [illegible]

[illegible] periods show therefore that [illegible] is an increase of [illegible] per [illegible] the [illegible] responding [illegible] ment directed to this end.[30]

1057 [illegible] We [illegible] difference in the curves [illegible] the galvanometer in [illegible] persons. In some the curves [illegible]

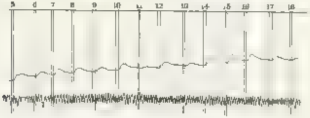

Fig. [illegible] Dr. K. Normal curve with rather [illegible] stimuli. Unemotional type

[illegible] there [illegible] responding [illegible] [illegible] varia tions are illustrated in figs. 5 and 6

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[30] [illegible] was about as follows:

Latent time in seconds	B.	G.	Dr. P.	Dr. R.	Dr. R. Word Assoc.	H. Word Assoc.
First series	2.28	3.05	3.5	4.3	3.27	6.5
Second series	2.65	1.95	4.88	5	4.44	5.94
Third series		2.57				4.6

III. THE PNEUMOGRAPH AS AN INDICATOR OF PSYCHIC PROCESSES

[illegible] The [illegible] of the respiration [illegible] psychic processes [illegible] and physiological concomitants has not yet been thoroughly investigated. Most [illegible] earlier investigations [illegible] the physiological [illegible] the pneumograph [illegible] Lehmann [illegible] respiratory [illegible] Delabarre[1] states [illegible] respiration [illegible] increases [illegible] depth [illegible]

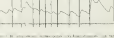


FIG. 11. [illegible]

mental processes increases in frequency and diminishes in depth. Lehmann[2] states that every pleasant impression increases the depth of breathing [illegible] impressions are accompanied [illegible] deep respiratory movements. Mentz[3] [illegible] pleasant and unpleasant [illegible] [illegible] the results. [illegible] pleasant [illegible] feelings

[1] Über Bewegungsempfindungen (1891).

[2] Die Hauptgesetze des menschlichen Gefühlslebens (1892).

[3] Die Wirkung akustischer Sinnesreize auf Puls und Athmung (1893).

[illegible] regards [illegible] a parallel [illegible]. [illegible] investigation of the respiratory [illegible] breathing [illegible]. Zoneff and Meumann [illegible] between the state of [illegible] and [illegible] processes, have made an exhaustive [illegible] upon normal individuals [illegible] that [illegible] the same [illegible] voluntary attention [illegible] and unpleasant impressions [illegible] the breathing [illegible] pleasant [illegible] attention [illegible] may appear as shallow [illegible] there may be a partial [illegible] attention [illegible] was [illegible] stimulation. There were [illegible] different [illegible] there were [illegible] considered as being due to [illegible] attention. [illegible] of pleasant and unpleasant [illegible] for all pleasant sensations [illegible] and [illegible] respiration [illegible] experiments [illegible] experiments [illegible] effects of both pleasant and unpleasant [illegible] is the first [illegible] together with [illegible]

[illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] have [illegible] [illegible] [illegible]

1060 Martius and Minnemann [illegible] an a[illegible] [illegible] and [illegible] experiments with [illegible] [illegible] also [illegible] the studies of Lehmann, Mentz, Zoneff and Meumann [illegible] experimental [illegible] [illegible] [illegible] affects and [illegible] [illegible] respiration [illegible] variations [illegible] [illegible] [illegible] experiments [illegible] [illegible] that the main changes in breathing in emotional [illegible] consist in quickened or lengthened tempo with diminished height in either case.

1061 Believing that a study of the inspiratory curve would throw [illegible] light upon the relation of respiratory innervation to psychic processes, we see before us several problems for consideration, viz., the character of the usual respiratory curve, the character of the curve in [illegible] reaction, the influence of [illegible] upon the curve, whether [illegible] are [illegible] in the pneumographic curve, whether there were marked [illegible] of the respiration [illegible] corresponding changes [illegible] galvanometer and [illegible]. We have not been able as yet to reach substantial [illegible] on all these points, for the material already available is more than we have yet had opportunity to investigate thoroughly, [illegible] so far as they go the results obtained are of interest. The figures in the table [illegible] of the cases given here show [illegible] regular [illegible] relation between the [illegible] and the pneumographic curves.

1062 [illegible] experiments [illegible] greatly [illegible] pneumographic curve has not been [illegible]. Taking the [illegible] several [illegible] measurements were made to determine the relation of [illegible] of inspiration [illegible] the ascending [illegible]

Beiträge zur Psychologie und Philosophie (1905).

[illegible]

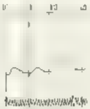
of Inspirations to Ascending and Descending Portions of the Galvanometer Wave

[illegible]

[illegible]

[illegible]

[illegible]



F[illegible] [illegible] a good-size ga[illegible] [illegible] curves [illegible] regular respiratory curve

[illegible] separate [illegible] series [illegible] as [illegible] expected [illegible] series [illegible] there [illegible] longer [illegible] seen [illegible]

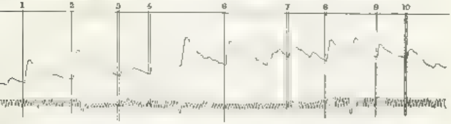
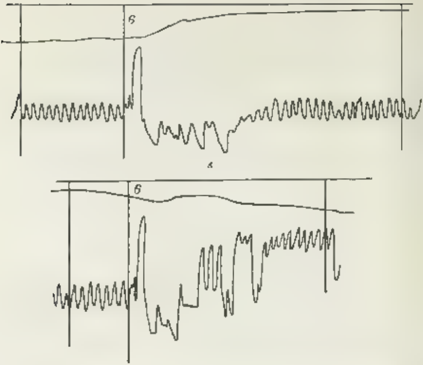


Fig. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] second [illegible] An example of [illegible] pneumograph curve

[illegible] seen [illegible] respiratory [illegible] that exists between [illegible] data [illegible] In [illegible] experience [illegible] respiration [illegible] increased [illegible] especially [illegible] as [illegible] expressions as "bated breath" [illegible] breathless with astonishment [illegible]



B.

[illegible] size of the tracing.

[illegible]

[illegible] character.

[illegible] sory nerves.

[illegible]

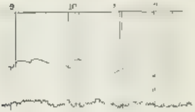


FIG. [illegible]. Miss S., paranoid dementia, case No. 2. [illegible] correspond [illegible] numbers [illegible] fixed [illegible] [illegible] respiratory changes in the respiratory curve are due [illegible] I suppose [illegible] this [illegible] She [illegible] walk [illegible] given as she apparently whispered answers [illegible] the time between [illegible] answers. Some times there was [illegible] movement [illegible] the [illegible] whispering was not apparent.

galvanometric curve [illegible] higher [illegible] of the [illegible] while the pneumographic curves only show traces of [illegible] conscious [illegible] cases [illegible] the galvanometer [illegible] index or measure of acute feeling-tone.

1115 [illegible] for the purposes of this study of the cases under [illegible] some forty series [illegible] educated and [illegible] we have some [illegible] series of curves in [illegible] cases of dementia praecox of different types [illegible] Dementia [illegible] these [illegible] attention.

IV. The Galvanometric and Pneumographic Curves in Dementia Praecox

1116 Before recording the results of our experiments in dementia praecox it is necessary [illegible] psychology [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible]

small for recognition.

[illegible]

[illegible] fassung gewisser Symptome der Dementia praecox (1903)

[illegible]

[illegible] robs the ego of light and nourishment, just as a cancer robs [illegible]

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* *Les Obsessions et la psychasthénie* (1903).

[illegible]

other hand, there is always defective reaction to [illegible]

[illegible]

which never fail in hysteria even in the severest forms

[illegible]

Raimann. *Die hysterischen Geistesstörungen* 1904.

[illegible] psychological stimulation

[illegible] that are of interest for us here

[illegible] mental paradigms

[illegible]

[illegible] *paranoides*.

[illegible], aged 45, [illegible]. Became insane about 1897 [illegible] room. Diagnosis—*Hebephrenic depression*.

[illegible] any of the deeper emotions. Diagnosis—*Hebephrenia*.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] will some irritation. Diagnosis—*Mild catatonic stupor.*

[illegible] aged 21, student of philosophy and very intelligent. [illegible] about 1901, when he had a short attack. The second attack [illegible] and strikes about him. Incessant hallucinations. What happened to his inner mental processes. In occasional intervals of [illegible] *stupor with raptus.*

[illegible] aged 26, merchant. Became insane in 1902. At first [illegible] cataleptic. Diagnosis—*Acute catatonic stupor.*

[illegible]

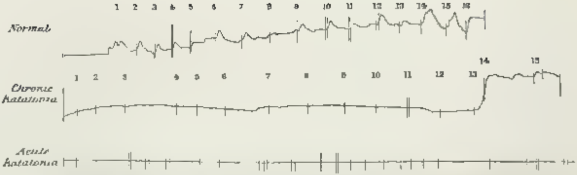
[illegible]

[illegible] curves we have taken in hysteria.

In [illegible]

[illegible] Our experience [illegible]

[illegible]


1
2
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7
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11
12
13
14
15
16
Normal
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Chronic Katatonia
Acute Katatonia

[illegible]

[illegible] series of word associations

[illegible] Time [illegible] in Cases of Insanity

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series I	3.3	5.75	4.04	5.9	8	4.7	7.6	[illegible]
Series II	2.66	5.87	5.81		5	5.5	17.9	
Series III	5.09	4.22						
Series IV		5.46						

Latent Time in the Same Cases of Insanity as Above Estimated in Seconds

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Series I (mixed stimuli)	5.47	4.6	4.45	8.55	8.55	5.8	7.95	26.94
Series II	6.95	4.3	6.45		5.55	6.1	9.22	
Series III	4.36	4.68						
Series IV		6.01						

[illegible] a part [illegible] Dr. [illegible] patient using word association the latent time was excessive [illegible] the first repetition of the same words. In the third case [illegible] the first series showed a [illegible] seconds [illegible] waves were [illegible] the repetitions. The four succeeding patients [illegible] show increased latent time and the [illegible] cases [illegible] a present [illegible] interval [illegible] time between the stimulus and the galvanometer wave.

The following table will better show the differences [illegible] between the normal cases and cases of dementia praecox, especially [illegible] the averages given at the end of the table.

Comparative Table Showing Average Fluctuations of the Normal Curve of Normal Cases and of Dementia Praecox

										Average	Average fluctuation
Normal	Series I	2.8	2.05	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	.73
	Series II and III	2.[illegible]	.95	4.88	[illegible]	3.44	.44	[illegible]	[illegible]	[illegible]	.99
Dementia Praecox	Series I	3.47	4.16	4.45	3.55	2.22	5.3	7.95	26.94	7.25	5.09
	Series II and III	2.93	4.3	6.45	5.59	6.11	19.22	4.36	4.68	6.71	3.[illegible]

The average fluctuation is determined by subtracting the ordinary average from the larger numbers in the series or the smaller numbers from the average. The sum of these differences is divided by the number of cases, which gives what is called the average fluctuation or the average of the differences [illegible] showing the fluctuations in pathological conditions.

V. ASSOCIATION EXPERIMENTS

Galton, Wundt, Kraepelin, Aschaffenburg, Sommer and others have introduced [illegible] psychology a very simple experiment [illegible] which a word is called [illegible] the subject, who must respond as quickly as possible with the first word that occurs to him. The reaction-time between the stimulus-word and the [illegible] belonging to the same circle of society.

[illegible] experiment.

[illegible]

[illegible] our meaning.

Stimulus-word	*Reaction-word*	*Reaction-time*
head	hair	1.4
green	meadow	1.6
water	*deep*	*5*
stick	knife	1.6
long	table	1.2
ship	*sink*	*3.4*
ask	answer	1.5
wool	knit	1.6
spiteful	friendly	1.3
lake	*water*	*4*
sick	well	1.8
ink	black	1.2
swim	*can swim*	*3.8*

[illegible] *Interpretation of Dreams*

[illegible] ordered affectivity

[illegible] of an emotional thought-complex.

[illegible] the existence of a complex

[illegible]

[illegible] cases [illegible] complexes [illegible] actual [illegible] are [illegible] present [illegible] the general nature [illegible] complexes [illegible] a certain [illegible] the complexes [illegible] We [illegible] our [illegible]

[illegible] psychogalvanic [illegible] complexes [illegible]

[illegible] Wherever possible we have [illegible] the same [illegible]

[illegible] The association [illegible] methods [illegible] pages [illegible] small [illegible] material [illegible] general [illegible]

The Results Obtained with Association Tests

[illegible] When the experiment is ended we measure [illegible] the [illegible] the tests. [illegible] repetitions were made

[illegible] We [illegible] average [illegible]

Case [illegible]

[illegible]

as example

	Series I			Series II			
No.	[illegible]	Reaction time [illegible]	Association	Reproduction	Height of curve [illegible]	[illegible]	Reaction
1	9	9	table/chair	ditto	7	7	ditto
2	4	9	sit on a chair	ditto	5	15	ditto
3	4	11	garden/vegetable	ditto	5	6	ditto
4	3	14	red apple	ditto	4	5	ditto
5	3	9	write with pencil	ditto	4	7	ditto
6	0	40	full (no reaction)		2	6	cask
7	3	8	good sugar		9	9	apple
8	6	6	forest/green	ditto	4	5	ditto
9	5	10	tavern/drink	ditto	2	5	ditto

[illegible] the galvanometer [illegible] figure [illegible] 8 mm. We [illegible] determine the probable average [illegible] Kraepelin [illegible] the following manner. The figures are arranged [illegible] order of their size and the middle [illegible] seconds. The [illegible] preferable [illegible] the [illegible] average [illegible] occasionally very large numbers [illegible] such cases where the reaction times [illegible] the case [illegible]. An arithmetical average would be [illegible] influenced by [illegible] presence [illegible] large numbers and [illegible] not give [illegible] average [illegible] the reaction time.

In the second series the average of the galvanometer deviations was 4.8 mm. and [illegible] of the reaction times [illegible] seconds. We observe here [illegible] a reduction of the average height of the galvanometer curve [illegible] lessening the power of [illegible] the reproduction. The same phenomenon is also seen [illegible] the average of the reaction times, which [illegible] galvanometer [illegible] due to the [illegible] attention.

[illegible] duce notable physical changes.

[illegible]

[illegible]

[illegible] which we refer

[illegible] See n. 6, supra

[illegible]

[illegible] with long reaction-times is 4.5 mm.; and with short reaction-times 6.1 mm.

[illegible] must be the subject of later study.

[illegible]

[illegible]

[illegible] Faculty of Memory" (supra), and other works on the association test.

[illegible] all [illegible] associations [illegible] testing intelligence [illegible] investigation [illegible] their associations [illegible] and [illegible] persons may seem [illegible] relatively intelligent subjects because they have given [illegible] associations. We may perhaps also expect [illegible] important differences between [illegible] and [illegible] intellects. The [illegible] experiments will open to us endless vistas.

[illegible] the average [illegible] associations in Series I, [illegible] an increased galvanometric curve [illegible] average [illegible] It is possible that [illegible] may show us that this result has considerable psychological significance [illegible] because this subject was quite intelligent.

After a marked [illegible] we frequently observe that there is [illegible] the succeeding [illegible] are [illegible] unexpected because it is a general psychological experience that strong affects [illegible] great sensitiveness. If, for example, we take the average of the curves [illegible] follow unusually strong galvanometer curves and compare them with the general average [illegible] contrast with the general average [illegible] and 1.8 seconds. In Series II these figures are reversed [illegible] where the average has a difference [illegible] the average [illegible] seconds. The relations are not quite definite.

[illegible] of Series I shows a [illegible] for the average [illegible] are related [illegible] and [illegible] connected [illegible] evidently struck a strong emotional complex.

Fig. [illegible] a portion of the curve of this case. [illegible] disturbed.

[illegible]

* * *

[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]
Series I	[illegible]	[illegible]
Series II	[illegible]	[illegible]
Series I	Probable average of reaction-times	1 8 sec
Series II	Probable average of reaction-times	1 5 sec
Series III	Probable average of reaction-times	1 0 sec

[illegible] reaction-times are what we expect, [illegible] the galvan[illegible] [illegible] creased the height of the curves

[illegible]

[illegible] cological constellation.

[illegible] in this wise:

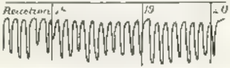
		Series I			Series II	
No.	Association	[illegible]	[illegible] curve	[illegible]	[illegible]	[illegible] curve
[illegible]	high tree	[illegible] sec.	[illegible]	[illegible]	[illegible] sec.	[illegible] mm.
[illegible]	[illegible]	[illegible] sec.	8 mm.	[illegible]	[illegible] sec.	6 mm.
[illegible]	[illegible]	[illegible] sec.	5 mm.	[illegible]		
6	[illegible]	[illegible] sec.	[illegible] mm.	ditto	[illegible] sec.	
7	[illegible]	[illegible] sec.	[illegible] mm.	ditto	[illegible]	
9	[illegible]	8 sec.	9 mm.	ditto	[illegible] sec.	

[illegible]

These [illegible] as al[illegible] mentioned [illegible] present[illegible] Series I [illegible] are [illegible] psych[illegible] regre[illegible] the [illegible] chology of the individual.

Series I [illegible]
[illegible] sec
Series I [illegible] galvanometer curves 5.2 mm
Series II [illegible] sec
Series II [illegible] galvanometer curves 12.0 mm
Series III [illegible]
Series III [illegible] galvanometer curves 7.0 mm

The [illegible] in Series II and III [illegible] Series I [illegible] correspond[illegible] expect[illegible] The [illegible] Series I and II are [illegible] coincide with our expectation.



[illegible] normal individual

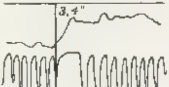


Fig. [illegible] the tracing)

[illegible] Since [illegible] repressed [illegible] of persons [illegible] plays a powerful [illegible] psychopathology. See the works of Freud, Bleuler and Jung.)

This [illegible] also [illegible] galvanometer [illegible] same here. We [illegible] the reaction-times [illegible] Series II [illegible] galvanometer curves are considerably higher than those in Series I.

	Galvanometer Curve	Reaction-time
(a) The altered reproductions of Series II average	6 mm.	1.7 sec.
The altered reproductions of Series III average	[illegible]	[illegible]
The unchanged reproductions of Series II average	7.9 mm.	1.8 sec.
The unchanged reproductions of Series III average	5.8 mm.	1.8 sec.

[illegible] reactions [illegible] Only [illegible] the above numbers [illegible]

(b) Galvanometer curves with long reaction-times, average in Series I	6.4 mm.
Galvanometer curves with short reaction-times, average in Series I	6.4 mm.
Galvanometer curves with long reaction-times, average in Series II	8.1 mm.
Galvanometer curves with short reaction-times, average in Series II	4.2 mm.
Galvanometer curves with long reaction-times, average in Series III	6.8 mm.
Galvanometer curves with short reaction-times, average in Series III	4.[illegible] mm.

The first test is understood [illegible] present figures [illegible] correspond [illegible] experience. In Case [illegible] the first test also gave a contradictory result. [illegible] In Series II 41.6 per cent of the associations [illegible] an average difference of [illegible] 2 mm. compared with Series I. In Series III 47.8 per cent of the associations [illegible] difference of plus 2.6 mm. as compared with Series II.

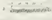
[illegible] Series [illegible] [illegible] value in Series II.

[illegible] Series [illegible] series have already been described.

[illegible] Series III [illegible] Series II [illegible] accidental.

[illegible] In Series [illegible] shown in Fig. 14.

[illegible]



[illegible] Case [illegible] b) Curve same case, associations No. 17 to [illegible]

[illegible] and 16 b.

[illegible]

[illegible] associations, each with [illegible] words

85 (1) Series I. Arithmetical average of galvanometer curves — 19.2 mm

Series II. Arithmetical average of galvanometer curves — 6.5 mm

Series III. Arithmetical average of galvanometer curves — [illegible]

Series I. Probable average of reaction-times — 3.4 sec

Series II. Probable average of reaction-times — 3.2 sec

Series III. Probable average of reaction-times — 2.0 sec

The [illegible] among emotional people.

		Reaction time
86 (2) The altered reproductions of Series II average	7.9 mm.	3.0 sec
The unchanged reproductions of Series II average	4.8 mm	2.2 sec
The altered reproductions of Series III average	[illegible]	[illegible]
The unchanged reproductions of Series III average	[illegible]	[illegible]

The [illegible] Series II are [illegible] 2.4 sec.

87 (3) The galvanic curves with long reaction-times in Series I average — 17.8 mm

The galvanic curves with short reaction-times in Series I average — 12.7 mm

The galvanic curves with long reaction-times in Series II average — 9.8 mm

The galvanic curves with short reaction-times in Series II average	9.6 mm
The galvanic curves with long reaction-times in Series II average	8.1 mm
The galvanic curves with short reaction-times in Series III average	0.0 mm

All [illegible] figures are [illegible] perfect [illegible] with [illegible] In Series II [illegible] per cent [illegible] associations [illegible] average [illegible] increased [illegible] thus [illegible] Series III [illegible] 7 per [illegible] the associations [illegible] difference of phase [illegible] All the figures [illegible] in the latter series [illegible] with the exception of [illegible] associations [illegible] We may [illegible] that [illegible] the first test. We [illegible] here [illegible] (Case No. [illegible] was [illegible] kind of [illegible] cases No. [illegible] No. [illegible] here [illegible]

Series [illegible] Probable average of reaction-times following associations with unusually high galvanic curves	9.8 sec
Series I. Average of [illegible] corresponding galvanic curves	22.9 mm
Series [illegible] Probable average of [illegible] following associations with unusually high galvanic curves	1.8 sec
Series II. Average of [illegible] corresponding galvanic curves	11.4 mm
Series II. Probable average of reaction-times following associations with unusually high galvanic curves	1.[illegible] sec
Series III. Average of [illegible] corresponding galvanic curves	1.7 mm

The galva[illegible] Series I and II [illegible] in Series III. The [illegible] on [illegible] in Series I.

		[illegible]	Reaction-time
113[illegible]	(6) Series I. Average of associations altered in subsequent reproduction	14.2 mm.	2.4 sec
	Series I. Average of association unchanged subsequently	13.5 mm.	2.0 sec

Series II. Average of associations altered in subsequent reproduction	8.7 mm	2.2 sec
Series II. Average of associations unchanged subsequently	3.6 mm	2.0 sec

[illegible]

[illegible] The [illegible] Series I is very irregular [illegible] In [illegible] high average of distribution.

Series II [illegible] average [illegible] is 5.4 and in Series III this average is only 2.3.

[illegible] Series I [illegible] illustrated [illegible] table.

	Series I		Series II				Series III	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
time	37 mm	9.0 sec	ditto	15 mm	5.5 sec	ditto	23 mm	9.7 sec
warm	18 mm	1.2 sec	ditto	31 mm	2.5 sec	ditto	[illegible]	[illegible]
nay	9 mm	2 sec	ditto	4.5 mm	0.8 sec	ditto	7.5 mm	[illegible]

[illegible] were altered. With one exception [illegible] averages. In [illegible]

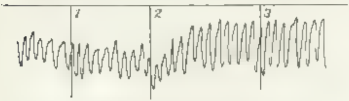
[illegible]

[illegible]

[illegible] association [illegible] *burns*.

[illegible] also throw much light on the subject.

[illegible]



[illegible]

[illegible] Fig. 18.

Case 4.—[illegible] woman, aged 25, used [illegible] these ex[illegible]

[illegible] in each.

189	(A) Series I. Arithmetical average of galvanic curves	6.8 mm.
	Series II. Arithmetical average [illegible]	[illegible]
	Series III. Arithmetical average [illegible]	[illegible]
	Series I. Probable average of reaction-times	[illegible]
	Series II. Probable average of reaction-times	[illegible] sec.
	Series III. Probable average of reaction-times	[illegible] sec.

[illegible]

		Galv.	Reaction time
190	(B) The altered reproductions of Series II average	7.5 mm.	1.1 sec.
	The unchanged reproductions of Series II average	1.6 mm.	1.0 sec.
	The altered reproductions of Series III average	0.0 mm.	1.0 sec.
	The unchanged reproductions of Series III average	1.0 mm.	1.0 sec.

The [illegible] Series II [illegible] expected [illegible] of Series II [illegible] perhaps [illegible] tions occur.

114 *C*) The galvanic curves with long reaction-times in Series I average [illegible] 6 mm

The galvanic curves with short reaction-times in Series I average [illegible]

The galvanic curves with long reaction-times in Series II average 5.4 mm

The galvanic curves with short reaction-times in Series II average 0.8 mm

The galvanic curves with long reaction-times in Series III average 1.0 mm

The galvanic curves with short reaction-times in Series III average 1.5 mm

The figures in Series I [illegible] in Series II, perhaps because [illegible] already sunk to zero.

[illegible] *D*) In Series II 5.5 per cent of the associations show an average plus difference of 6.0 mm

In Series III 11.1 per cent of the associations show an average plus difference of 8.7 mm

In this [illegible] not change much later on.

145 *F*) Series I. Probable average of reaction-times following associations with unusually high galvanometer curve 1.1 sec

Series I [illegible] average of [illegible] galvanometer curves 6.5 mm

Series II [illegible] average [illegible] following associations with unusually high galvanometer curves [illegible]

Series II [illegible] average [illegible] corresponding galvanometer curves [illegible]

The figures for Series III are omitted because [illegible] galvanometer curves were [illegible] zero. The figures [illegible] the two series [illegible] expectation.

		Galv.	Reaction time
1144	(F) Series I. Average of associations altered in subsequent reproductions	4.8 mm.	4.0 sec.
	Series I. Average of associations unchanged subsequently	[illegible]	[illegible]
	Series II. Average of associations altered in subsequent reproductions	6 mm.	1.2 sec.
	Series II. Average of associations unchanged subsequently	1.6 mm.	1.0 sec.

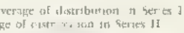
These figures are what we should expec[illegible]

1145	(G) Average of distribution in Series I	[illegible]
	Average of distribution in Series II	[illegible]
	Average of distribution in Series III	[illegible]

[illegible] figures in the first se[illegible] With lessen[illegible] power of the st[illegible] [illegible] in the following associations

	Series I			Series II			Series III	
	Galvanometer	Reaction time	Reproduction	Galvanometer	Reaction time	Reproduction	Galvanometer	Reaction time
ball dance	4.8 mm.	4.0 sec.	0	7.5 mm.	1.6 sec.	[illegible]	18 mm.	[illegible]
[illegible]ed	[illegible]	2.8 sec.	ditto	2 mm.	0.6 sec.	ditto	[illegible]	[illegible]
[illegible]	7.5 mm.	1.4 sec.	ditto	3 mm.	0.8 sec.	ditto	3 mm.	[illegible]

The g[illegible] [illegible] higher [illegible] [illegible] series [illegible] associations [illegible] first series [illegible] galvanometer [illegible] part[illegible] [illegible]



F[illegible] W[illegible] [illegible]ion ball dance in Case 4 [illegible] evident.

[illegible] Series III [illegible]

2. Résumé of the Tests with Word Associations in Normal Individuals

[illegible] sense.

[illegible]

[illegible] over unchanged reproductions.

[illegible]

[illegible] This [illegible] the [illegible]

[illegible] results [illegible] galvanometer [illegible] also [illegible] the results

[illegible] *Associations in Dementia Praecox*

[illegible] test [illegible] galvanometer

[illegible] *twenty-four words each*

[illegible] *A*)

Series I. Arithmetical average of heights of galvanometer curve	11.6 mm
Series II. Arithmetical average of heights of galvanometer curve	4.6 mm
Series I. Probable average of the reaction-times	6.6 sec
Series II. Probable average of the reaction-times	4.8 sec

[illegible] excess [illegible] presented the following averages:

Series I [illegible]	[illegible] 1.8 sec
Series II [illegible]	[illegible]

[illegible] contrast in the length of the reaction-times.

	Galv.	Reaction-time
50 *B*) The altered reproductions in Series I, average	4.7 mm	6.0 sec
The unchanged reproductions in Series II, average	3.4 mm	2.8 sec

[illegible] present [illegible] reproductions.

1160 (C) The galvanometer curves with long reaction-times in Series I average 13.1 mm

The galvanometer curves with short reaction-times in Series I average 10.8 mm

The galvanometer curves with long reaction-times in Series II average 8.8 mm

The galvanometer curves with short reaction-times in Series II average 4.0 mm

In this case the figures in Series I and those in Series II are what we expect.

1161 (D) In Series II 2[illegible] per cent of the associations show average plus difference of 4.5 mm.

1162 (E) Series I. Probable average of reaction-times following associations with unusually high galvanic curves 4.0 sec

Series I. Arithmetical average of the corresponding galvanic curves 10.0 mm

Series II. Probable average of reaction-times following associations with unusually high galvanic curves [illegible] sec

Series II. Arithmetical average of the corresponding galvanic curves 3.2 mm

In this case only the reaction-time in Series II is in accordance with our expectation.

	Galv.	Reaction-time
1163 (F) Series I. The associations with altered reproductions in the following series average	9.8 mm.	6.6 sec.
Series I. The associations with unchanged reproductions in the following series average	[illegible] mm	[illegible] sec.

Only the reaction-time here is what we expect.

1164 (G) The average of [illegible] in Series I was [illegible]. The average [illegible] in Series II was [illegible]. These figures are similar to those of Case 4 among the normal.

1165 The highest galvanic [illegible] the case [illegible] There was [illegible] longest re[illegible] 2 sec. The next longest time was connected [illegible] average [illegible] mm. The patient [illegible] affectation. The following are examples

write	activity
shoes	footwear
hat	an article of clothing
house	building construction
to sit	condition of rest
money	medium of exchange
proud	adjective

[illegible] of expression [illegible]

[illegible] sociations with twenty-five words each

[illegible] curves 7.9 mm

Series I.	[illegible] curves	[illegible]
Series I.	[illegible]	[illegible]
Series I.	Probable average of reaction-times	10.8 sec
Series II.	Probable average of reaction-times	[illegible] sec
Series II.	Probable average [illegible]	[illegible]

As [illegible] are extraordinarily [illegible]

		Galv.	Reaction-time
[illegible]	(B) The altered reproductions in Series II average	[illegible] mm	[illegible] sec

The unchanged reproductions in Series II average	3.6 mm.	5 [illegible]
The altered reproductions in Series III average	2.5 mm.	7.4 sec.
The unchanged reproductions in Series II. average	[illegible] mm.	4.8 sec.

[illegible] than the galvanometer [illegible]

[illegible] The galvanometer curves with [illegible] reaction-times in Series I average	9.6 mm.
The galvanometer curves with [illegible] in Series I average	6.0 mm.
The galvanometer curves with long [illegible] Series II average	4.7 mm.
The galvanometer curves with short reaction-times in Series II average	2.6 mm.
The galvanometer curves with [illegible] Series III average	[illegible]
The galvanometer curves with short reaction-times in Series III average	[illegible]

The figures in all three series are what we expect [illegible] Series II [illegible] Series II [illegible]

(E) Series I. Probable average of reaction-times following associations with unusually high galvanic curves	11.6 sec.
Series I. Arithmetical average of corresponding galvanic curves	11.8 mm.
Series II. Probable average of reaction-times following associations with unusually high galvanic curves	[illegible]
Series II. [illegible] average of [illegible] galvanic curves	5.7 mm.
Series III. Probable average of [illegible] following associations with unusually high galvanic curves	8.2 sec.
Series III. Arithmetical average of corresponding galvanic curves	[illegible]

[illegible] the same

		Galv.	Reaction time
1172 (F)	Series I. The associations with altered reproductions in the following series average	9.0 mm.	10.4 sec
	Series I. The associations with unchanged reproductions in the following series average	6.9 mm.	12.4 sec
	Series II. The associations with altered reproductions in the following series average	9.9 mm.	6.6 sec
	Series I. The associations with unchanged reproductions in the following series average	4.0 mm	4.8 sec

[illegible] Series I [illegible] Series II [illegible]

(G) The average of distribution in Series I was 4.0.
The average of distribution in Series II was 2.8.
The average of distribution in Series III was 1.6.

[illegible] Series II [illegible] Series III [illegible]

[illegible]

[illegible] plished the highest work.

[illegible] are examples:

[illegible]gent	high esteem—payment
love	to be lovable—wedding
snake	to point out as extraordinary
high	highest action—highest distinction
ugly	disfigured by great suffering

[illegible] disease.

[illegible] the associations [illegible] [illegible] art and the complexes.

[illegible]

[illegible] these patients [illegible] and influence [illegible] association [illegible] innumerable [illegible] distances [illegible] [illegible] mental significance [illegible] [illegible] complex [illegible] [illegible] we do not [illegible] [illegible] [illegible] relations [illegible] [illegible] these patients [illegible] simple elementary disturbances common to all cases.

[illegible] have [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Tarchanoff.

[illegible] excitations sensorielles et des émotions" (1888, p. [illegible]).

FURTHER INVESTIGATIONS ON THE GALVANIC PHENOMENON AND RESPIRATION IN NORMAL AND INSANE INDIVIDUALS

by Charles Ricksher and C. G. Jung

[illegible] The changes produced [illegible] resistance [illegible] [illegible] that there was a decrease [illegible] sensory stimuli were applied [illegible] [illegible] recherches des psycho-physiologues.

[illegible] Veraguth [illegible] experiments [illegible]

[illegible] Sexton. Author and terminological revisions have been made.

[illegible]

[illegible] ment of stim[illegible] as an ordinary electrical marker [illegible]

[illegible] proved by the fact that when the electrodes were [illegible] the skin resistance was enormously decreased. This was done [illegible] using the needles as electrodes.[a]

[illegible] non [illegible] appeared

[illegible]

---

[a] Experiments by Veraguth and Jung and Binswanger.

[illegible] The [illegible] of [illegible] and the change [illegible] resistance [illegible] suggests some [illegible] system [illegible] in some areas [illegible]. The [illegible] glands seem [illegible] resistance. [illegible] were [illegible] would be [illegible]. Experiments were made by placing electrodes on [illegible] parts of [illegible] resistance was [illegible] marked [illegible] those places where [illegible] sweat-glands are [illegible]. It is well known [illegible] are sensory [illegible] organs [illegible] glands. [illegible] Hea[illegible] [illegible] resistance. In view of these facts the [illegible] seems to be the most plausible explanation [illegible] resistance.

[illegible] The following experiments were made [illegible] the [illegible] and [illegible] a view to [illegible] given [illegible] and [illegible] of [illegible] stimuli [illegible] stimuli [illegible]. The galvanometer [illegible]. The respiration was recorded [illegible] a Marey [illegible] Marey [illegible].

[illegible] The [illegible] experiments [illegible] very [illegible] Mosso [illegible] Mentz [illegible] resistance [illegible] pulse. Zoneff and Meumann [illegible] a very great [illegible] respiration [illegible] the case [illegible] increase [illegible] respirations [illegible].

Remarks by [illegible] Mosso, and Mentz are quoted from Zoneff and Meumann.

[illegible] differences [illegible] these facts.

[illegible] experiments are [illegible] possible [illegible] pressure [illegible] ent way from that in which they really occur.

[illegible] represent [illegible] expe [illegible] less [illegible] changes. The pneumograph [illegible] used [illegible]

The [illegible] pneumograph was not used because [illegible] interpretation of the results difficult.

[illegible] experience [illegible]

movements of the hands. An increase or decrease [illegible] [illegible] such a complex to come into consciousness or they produce an [illegible] emotional condition.

[illegible] tients suffering from various mental diseases.

[illegible] after.

[illegible] a tender weight [illegible]

[illegible]

[illegible] first.

NORMAL SUBJECTS

[illegible] period

[illegible]

[illegible] The average [illegible] respiration [illegible] per [illegible] cases [illegible] great [illegible] large [illegible]

[illegible] was [illegible] the height [illegible] galvanic [illegible] case [illegible] and [illegible] galvanic [illegible] In another case [illegible] the deflection [illegible] The average deflection for fifteen subjects was 20.6 mm.

The longest [illegible] from the moment [illegible] greatest galvanic reaction [illegible] seconds. [illegible] seconds and one [illegible] requiring [illegible] seconds. The average time is 6.99 seconds.

The inspirations show [illegible] differences [illegible] and [illegible] respiratory [illegible] shows

Height of Galv. Curve	*Insp. before Stim.*	*Rate of Galv. Curve*	[illegible]
[illegible]	3. [illegible] per cm.	[illegible] per cm.	[illegible] per cm.
18.8 mm.	3. [illegible] per cm.	2. [illegible] per cm.	[illegible] per cm.
4.6 mm.	3. per cm.	2.5 per cm.	2.9 per cm.

Thus the change in rate [illegible] is great [illegible] Whether [illegible] is slowed [illegible] or speeded [illegible] curve seems to depend [illegible] a decrease of speed during the rise [illegible] increase during the fall of the galvanic curve.

The average [illegible] inspiration [illegible] per cm. during the rise of the galvanic [illegible] during the fall 3.09 per cm.

[illegible] amplitude [illegible] inspirations does not vary [illegible] Before the stimulus the average [illegible]

[illegible] may be se[illegible] [illegible] [illegible] ing [illegible] [illegible]

[illegible] [illegible] sp[illegible] speaking [illegible] pa[illegible] [illegible] [illegible] [illegible] lower than [illegible] [illegible] [illegible] ing [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] curves sh[illegible] [illegible] [illegible] speaking [illegible] [illegible] [illegible] [illegible] speaking [illegible] [illegible] [illegible] speaking or even a little before

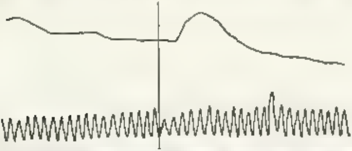


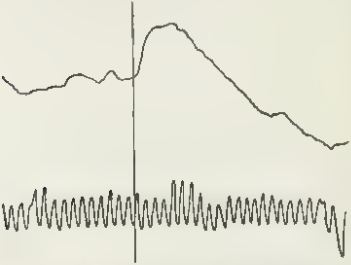
Fig. [illegible] Res[illegible] [illegible] show[illegible] [illegible] [illegible] resp[illegible]

[illegible] I[illegible] insp[illegible] [illegible] [illegible] case [illegible] [illegible] galv[illegible] [illegible] decrease as [illegible] curve [illegible] [illegible] [illegible] [illegible] per[illegible] [illegible] [illegible] [illegible] the inspir[illegible] before speaking is [illegible] [illegible] [illegible] Thus the [illegible] increases as the rate decreases

[illegible] [illegible] [illegible] three [illegible] [illegible] [illegible] merely a sensory [illegible] [illegible] also [illegible] psycholog[illegible] [illegible] ponent [illegible] [illegible] [illegible] [illegible] complexes [illegible] [illegible] [illegible] is associated with many past experiences [illegible] p [illegible] into play here to a very great extent.

108 The measurements are:

	Weight	*Distance*	*Picture*
Height of curve	17.94 mm.	18.2 mm.	19.72 mm.
Latency time	0.55 sec.	2.82 sec.	3.09 sec.
Time to reach top of curve[6]	6.95 sec.	9.88 sec.	7.47 sec.



[illegible] the rise of the galvanometric curve is clearly shown.

[illegible] mum varies in the different cases.

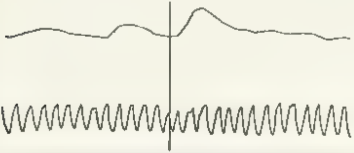
109 In every case [illegible]

---

[6] Hereafter abbreviated as Height, Latency, Time to top.

[illegible] the measurements are

	Inspirations per cm			*Height in mm*		
	Weight	*Whistle*	*Picture*	*Weight*	*Whistle*	*Picture*
Before stimulus	3.01	2.75	2.88	12.02	12.05	12.46
Rise of curve	3.38	2.77	3.02	10.56	11.35	10.[illegible]
Fall of curve*	2.76	3.06	3.09	12.92	12.48	11.33



[illegible] tory rate and amplitude are clearly show[illegible]

[illegible] sentences [illegible] were used as stimuli. The [illegible] and [illegible] between [illegible] lowest level. The measurements are

	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*
Height	14.80 mm.	14.48 mm.	10.42 mm.	11.42 mm.
Latency	3.92 sec.	3.[illegible] sec.	2.84 sec.	3.15 sec.
Time to top	8.13 sec.	5.82 sec.	7.67 sec.	5.05 sec.

As [illegible] the galvanometer [illegible] gradual decrease [illegible] be expected [illegible] the first [illegible] referred [illegible]

---

* Hereafter abbreviated as Before, Rise, Fall.

[illegible] galvanic [illegible] the height of the galvanic curve.

The [illegible] relation to the height of the galvanic curve.

212 The [illegible] curves [illegible] differences [illegible] respiration [illegible] sentences [illegible] respiration [illegible] increases [illegible] decreases during the rise of the galvanic curve. The amplitude of the inspirations [illegible] while the galvanic curve is rising and [illegible] is falling and [illegible] decreases as the subject wears off, as the [illegible] table shows.

	Inspirations per cm.				*Height in mm*			
	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*	*Sen. 1*	*Sen. 2*	*Sen. 3*	*Sen. 4*
Before	3.84	2.97	2.7[illegible]	3.05	12.8[illegible]	12.59	13.74	[illegible]
Rise	3.04	2.78	2.57	3.41	[illegible]	[illegible].27	12.81	[illegible].76
Fall	3.09	2.74	3.13	3.46	[illegible].14	11.98	13.48	13.07

213 *Part II* is a second quiet period [illegible] As a general rule this part shows fewer irregularities than the first because the subject has become accustomed to the experiment and is comfortably settled in his place. One marked feature of this part is the change [illegible] respiratory [illegible] as soon as the subject is told that the experiment is over and he is released from the involuntary tension in which he has been held.

214 The respiratory rate is slower than in the first quiet period. At the beginning the inspirations are [illegible] per cm. as compared to 2.9[illegible] per cm. in the first curve. At the end they are [illegible] per cm. as compared to [illegible] per cm. in the first curve. The height of the inspirations is 12.[illegible] mm. at the beginning as compared to 12.[illegible] in the first curve, and [illegible] mm. at the end as compared to 12.86 mm. in the first curve.

215 What we have designated expectation curves are changes in the galvanic curve that occur while the subject is waiting for the stimulus. Naturally they vary according to the individual. Some of our subjects showed no [illegible] expectation curve, whereas in others we find quite marked expectation curves. These curves are more frequent in the early part of the experiment and are especially marked in Part II while the subject is

[illegible] 12 seconds

I[illegible] during the fall, 10.56 mm

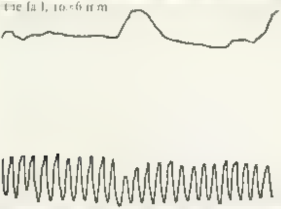


Fig. [illegible] showing changes [illegible] respiration due to [illegible] attention

[illegible] there are great individual differences in the gra[illegible] expressed as [illegible] the average [illegible] differences between each figure and the average of all the figures

Part II	weight	5.09
Part IV	weight	[illegible]
	whistle	[illegible]
	picture	[illegible]
Part V	sentence 1	[illegible]
	sentence 3	[illegible]
	sentence 4	[illegible]
	sentence	[illegible]

[illegible] great [illegible]

[illegible]

[illegible] The general [illegible] results are interesting [illegible] what one would expect

[illegible] tion of each

	[illegible] per cm	Coefficient	Height in mm	Coefficient
Before	8.94	0.16	12.19	0.62
Rise	8.97	0.19	11.38	0.50
Fall	8.11	0.15	12.19	0.47

It [illegible] the responses [illegible] from the [illegible] The [illegible] which an average was taken are about equal

[illegible]

During rise	High	rate	decrease 0.05 per cm
		amplitude	decrease 1.17 per mm
	Low	rate	decrease 0.06 per cm
		amplitude	decrease 1.06 per mm.

T[illegible]

[illegible] tude is greater in the higher reactions

[illegible]

During fall [illegible]

[illegible]	rate	decrease 0.00[illegible] per cm
	amplitude	increase 0.819 mm

[illegible]

[illegible] of the greater reactions

[illegible] the reaction show that there is an increase in the rate [illegible] increase in the amplitude after new reactions

28 The following table was obtained by comparing [illegible] amplitude before stimulus with the rate [illegible] during the rise of the galvanic curve and the rate [illegible] during the rise of the galvanic curve

Before stimulus	high	rate	increase 0.[illegible]6 per cm
		amplitude	increase 0.2[illegible]5 mm
After reaction	low	rate	decrease [illegible] per cm
		amplitude	increase 0.[illegible]9 mm

[illegible]

[illegible] probably [illegible] the experiment

Abnormal Subjects

[illegible] These subjects were patients suffering from epilepsy, dementia praecox, general paralysis, [illegible] alcoholic dementia and senile dementia.

[illegible] The conditions of the experiment were exactly the same as in the case of normal subjects, except that in many cases the pneumograph could not be used.

Epilepsy

[illegible] There were [illegible] subjects in this group, the majority being severely deteriorated. Among these were [illegible] case of traumatic epilepsy, a [illegible] younger [illegible] epilepsy with hysteria. One subject was examined immediately after an attack of *petit mal*. In this case the reactions to [illegible] stimuli were slight or nil, but when the patient was [illegible] with a needle there was a [illegible] reaction [illegible]. This change was very slow [illegible] remained long for several minutes. The reaction to a prick of a needle was very strong [illegible] and [illegible] reactions in every case where [illegible] marked. In [illegible] case the [illegible] produced a [illegible] of [illegible] mm. and the weight one of 2.8 mm. The other stimuli were without effect. The latency time for the whole was [illegible] seconds [illegible] the needle [illegible] seconds [illegible] seconds for the curve produced by the [illegible] to reach its maximum.

[illegible] In this group the differences between the reactions to [illegible] stimuli are more marked than in normal subjects. In [illegible] cases the [illegible] period [illegible] change. Only [illegible] could be considered an expectation curve.

[illegible] Five subjects reacted to the falling weight (Part II). The reactions vary from [illegible] mm. The greatest reaction was in the case of epilepsy and hysteria. The three cases not reacting were severely demented. The averages for the cases reacting are:

Height	7.5 mm.
Latency	2.25 sec
Time to top	6.00 sec

1235 The pneumographic measurements are:

	Inspirations per cm.	*Average height in mm.*
Before	8.6	12.28
Rise	8.6	9.73
Fall	8.71	6.81

1237 The g[illegible] as [illegible] as high as [illegible]. The [illegible] measurements are almost the same as those of the normal cases.

Subjects corresponding to Part III [illegible] three cases. In these cases there [illegible] averaging 2 sec. [illegible] cases where the curve [illegible]. The measurements of the three cases are:

Height	14.66 mm.
Latency	2.0 sec.
Time to top	5.5 sec.

1238 These measurements are lower than in normal subjects. The pneumographic results are:

	Inspirations per cm.	*Average height in mm.*
Before	8.5	10.02
Rise	8.8	11.52
Fall	8.9	13.62

In most cases [illegible] stimulus where it increases.

1239 Part IV [illegible] cases.

1240 The measurements for five cases are:

	Weight	*Whistle*	*Picture*
Height	[illegible] mm.	23.6 mm.	[illegible] mm.
Latency	[illegible] sec.	[illegible] sec.	[illegible] sec.
Time to top	6.6 sec.	6.75 sec.	5.3 sec.

1241 In [illegible] cases the greatest reaction was [illegible] the picture. The [illegible] the lowest [illegible]

[illegible] ments in three cases are as follows:

	Inspirations per cm			*Average height in mm*		
	Weight	*Whistle*	*Picture*	*Weight*	*Whistle*	*Picture*
Before	2.8	3.0	2.7	8.05	8.23	8.39
Rise	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

242 In the [illegible] cases the [illegible] was [illegible] of the galvanometer [illegible]

[illegible] Part V [illegible] all cases [illegible] measurements for four cases are:

	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*
Height	14.4 mm.	7.8 mm.	4.5 mm.	4.5 mm.
Latency	3.6 sec.	3.3 sec.	5.0 sec.	4.0 sec.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] The [illegible] measurements:

	Inspirations per cm			
	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*
Before	3.5	3.0	3.0	4.0
Rise	4.0	3.0	3.0	3.0
Fall	3.1	3.3	3.3	[illegible]

	Average height in mm			
	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*
Before	[illegible]	6.7	5.6	7.0
Rise	[illegible]	7.5	6.0	5.5
Fall	[illegible]	6.0	6.6	5.5

[illegible] Part VI [illegible]

[illegible] In [illegible] of associations.

Dementia Praecox

1247 The cases in this group were in various stages of the disease. The reactions therefore vary considerably. Each form of the disease will be discussed separately.

Catatonia

[illegible] pressive state the reaction is also less marked.

[illegible] cation it is very nearly a straight line.

The pneumograph was not used.

[illegible] cases was [illegible] 8 mm.

[illegible] subjects.

[illegible] in normal cases. In five cases of patients [illegible]

[illegible] weight, caused the greatest reactions.

[illegible]

Sentence 1	2.01 mm.
Sentence 2	2.5 mm.
Sentence 3	2.6 mm.
Sentence 4	[illegible] 9 mm.

The second [illegible]

Hebephrenia

1057 There were eleven subjects suffering from this form of the disease. The measurements [illegible] hardly differed from those of the former group, are [illegible] different from the normal.

1058 As in the catatonic group, the [illegible] curve is irregular, however, even the patient has [illegible].

1059 The weight (Part II) caused a weaker reaction than in the former group, the average deflection being [illegible].

1060 Spontaneous speaking (Part III) in four cases gave an average deflection of 2.6 mm.

1061 The three physical stimuli (Part IV) caused the following reactions: weight, 0.8 mm; whistle, [illegible]; [illegible], 4.4 mm. As in the former groups, the weight caused the greatest reaction.

1062 Part V (sentences) caused a greater reaction here than in the former group, but a much smaller average reaction than the physical stimuli. The measurements are:

Sentence 1	2.[illegible] mm
Sentence 2	3 mm
Sentence 3	4.8 mm
Sentence 4	3.[illegible] mm

Paranoid Group

1063 There are two subjects in this group, one in an early stage, the other somewhat demented and more seriously diseased. The latter reacted to none of the stimuli. The pneumograph was used in two cases.

1064 The quiet person is almost like a normal subject.

1065 Part II (falling weight) caused much weaker reactions than those in the two preceding groups, the average being 4.8 mm. The latency time averages 2 sec. and the time required for the curve to reach its maximum 7 sec. The rise and fall of these curves is much slower than in the normal cases. The pneumographic measurements of two cases are:

	Inspirations per cm	*Average height in mm*
Before	2.5	19.1
Rise	2.94	8.1
Fall	2.68	11.8

These are very close to the measurements obtained in the normal cases.

Part II [illegible] cases. [illegible] measurements are those of the normal cases.

	Inspiration per cm.	*Average height in mm*
Before	3.2	11.78
Rise	2.92	9.2
Fall	2.52	10.76

Part IX [illegible] picture is the greatest. The measurements are

	Weight	*[illegible]*	*Picture*
Height	5.8 mm	5.4 mm.	7.0 mm
Latency	2.5 sec	2.0 sec.	2.0 sec
Time to top	6.0 sec.	6.0 sec.	5.5 sec

The [illegible] measurements [illegible] varies in every case, apparently quite freely.

	Inspirations per cm.			*Average height in mm*		
	Weight	*[illegible]*	*Picture*	*Weight*	*[illegible]*	*Picture*
Before	3.0	2.7	3.0	11.90	11.61	16.61
Rise	2.78	3.9	4.6	9.32	9.50	[illegible]
Fall	2.95	3.16	2.91	12.54	[illegible]	[illegible]

Part X. The reactions [illegible] series [illegible] higher [illegible] The measurements are

	Sen. 1	*Sen. 2*	*Sen. 3*	*Sen. 4*
Height	5.3 mm	3.2 mm	2.6 mm.	3.0 mm
Latency	3.0 sec	5.0 sec.	3.0 sec.	3.0 sec
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The [illegible] sensations [illegible] given [illegible]

	Inspirations per cm		*Average height in mm*	
	Sen. 1	*Sen. 2*	*Sen. 1*	*Sen. 2*
Before	3.8	3.0	12.52	13.58
Rise	3.16	2.99	12.16	[illegible]
Fall	2.5	2.48	13.0	12.22

The second [illegible] curve is [illegible] cases.

Chronic Alcoholism

[illegible]

The first quiet period shows nothing [illegible]

[illegible] greater than in any of the other groups.

P[illegible] I[illegible]

P[illegible] IV [illegible]

P[illegible] V [illegible] mm. Sen. 3, 30 mm.; Sen. 4, 4 mm.

Alcoholic Dementia

[illegible] mm. for the last group.

[illegible] slightest reactions.

[illegible] seen in the sentences, where they are slight.

Ser. 1	Ser. 2	Ser. 3	Ser. 4
4.9 mm.	1.9 mm.	5.6 mm.	2.5 mm.

[illegible] of the other groups.

General Paralysis

[illegible] gave hardly any reactions to the various stimuli.

[illegible] at all in the connected cases

Height	[illegible]
Latency	[illegible]
Time to top	[illegible]

[illegible] normal

	Inspirations per cm.	Average height in mm.
Before	3.25	[illegible]
Rise	3.1	[illegible]
Fall	3.4	[illegible]

[illegible] galvanic reactions are:

	Inspirations per cm.	Average height in mm.
Before stimulus	2.5	[illegible]
After stimulus	3.0	[illegible]

[illegible]

[illegible] the following reactions:

	Height	Whistle	[illegible]
Height	9.4 mm.	25.8 mm.	[illegible]
Latency	2.5 sec.	2.3 sec.	[illegible]
Time to top	4.0 sec.	7.0 sec.	[illegible]

589 [illegible] these cases [illegible] The measurements for the three cases are:

	Inspirations per cm.			Average height in mm.		
	Weight	Whistle	Picture	Weight	Whistle	Picture
Before	3.0	3.0	3.65	5.5	5.5	7.9
Rise	3.0	3.0	3.[illegible]	[illegible]	[illegible]	7.[illegible]
Fall	3.0	2.9	3.[illegible]	4.8	8.8	7.8

590 In the case of two patients giving no galvanic reaction the pneumographic measurements are:

	Inspirations per cm.			Average height in mm.		
	Weight	Whistle	Picture	Weight	Whistle	Picture
Before	2.0	3.0	2.0	20.5	20.45	18.5
After	2.0	2.5	2.0	21.18	20.50	19.6

591 [illegible] subjects reacted to these stimuli.

	Sen. 1	Sen. 2	Sen. 3
Height	[illegible]6 mm.	9.58 mm.	[illegible]8 mm.
[illegible]	[illegible]	[illegible]	[illegible]
Time to top	5 sec.	4.7 sec.	5.5 sec.

592 [illegible]

	Inspirations per cm.			Average height in mm.		
Before	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rise	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fall	4.0	4.6	4.5	[illegible]1.0	8.1	9.2

593 [illegible] galvanic reaction are:

	Inspirations per cm.		Average height [illegible]	
	Sen. 1	Sen. 2	Sen. 1	Sen. 2
Before	2.75	3.0	20.75	20.40
After	2.75	2.75	21.30	21.50

594 [illegible]

[illegible] They [illegible] in the experiment [illegible] the [illegible] galvanic [illegible] [illegible] [illegible] cases of dementia.

Senile Dementia

[illegible] There were three cases of senile dementia. Most of these [illegible] of a needle caused no galvanic fluctuation.

[illegible] The weight [illegible] cases [illegible] average deviation for the three cases was 5 mm.

[illegible] Spontaneous speaking (Part III) [illegible] to be [illegible] the [illegible]

[illegible] The [illegible] (Part IV) gave [illegible] some [illegible] the weight causing an average [illegible] The [illegible] 1.8 mm. [illegible] greater [illegible] ture as interesting.

[illegible] The emotional sentences (Part V) caused very little reaction.

Sen. 1	Sen. 2	Sen. 3	Sen. 4
.6 mm.	0.6 mm.	0.2 mm.	0.8 mm.

[illegible] The following [illegible] gives a [illegible] galvanic measurements in mm. of all the subjects:

	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Sentences			
						[illegible]	[illegible]	[illegible]	[illegible]
Normal	[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Epileptic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Catatonia	6.8		6.5	2.4	3.9	2.0	2.5	2.6	1.9
Imbecility	5.0	2.6	6.8	3.6	6.4	2.6	3	3.8	4.0
Paranoid D. P.	4.8	4.6	5.8	5.4	7.0	5.0	5.2	2.6	3.0
[illegible] [illegible]	25.8	8.6	24.0	25.0	28.0	8.8	16.0	20.0	14.0
Alcoholic dementia	9.06	6.8	18.0	13.0	7.6	3.5	1.5	5.6	1.5
General paralysis euphoria and expansive	31.[illegible]		9.4	25.8	15.05	16.0	9.58	18.0	
General paralysis [illegible]				—					
Senile dementia	5.0	—	1.0	1.8	4.0	0.5	0.5	0.2	0.8

[illegible] response.

[illegible] There [illegible] galvanic phenomenon persists.

[illegible] caused by the psych[illegible] following facts.

[illegible] a large number of associations [illegible]

A [illegible] simple word.

In cases [illegible] where the associations are few [illegible] actions are correspondingly weaker.

The [illegible]

The strength [illegible] changes [illegible] a very great [illegible]

[illegible]

[illegible] orig. [illegible]

[illegible]ment [illegible] is seriously disturbed. This can be proved by [illegible] the subject [illegible] a paper [illegible] the head of a [illegible]ment. In this case the reactions are [illegible].

SUMMARY

From the above experiments we conclude that:

1. The galvanic fluctuations depend on attention to the stimulus and the ability to associate it with previous occurrences. This association may be either conscious or unconscious.[8]

2. In normal experiments greater galvanic fluctuations are caused, as a rule, by physical than by psychological stimuli. This may be due to the fact that they occurred before the psychological stimuli; early stimuli nearly always cause greater reactions than later ones.

While galvanic reactions are greatly [illegible] in the insane, they are nearly always greater than galvanic reactions.

3. In depression and stupor the galvanic reactions are low, because attention is poor and associations are inhibited.

In catatonic excitement and in the early stages of general paralysis reactions are high because of greater excitability.

In chronic dementia praecox reactions are practically nil because of the lack of associations.

4. Reactions show great individual variation and are [illegible] in [illegible] which [illegible] are entirely independent of the original bodily resistance.

The pneumographic measurements may be summarized as follows:

1. The inspiratory rate varies according to the individual and no general rule can be given.

2. The amplitude of the inspirations generally decreases during the rise of the galvanic curve.

3. This decrease in amplitude, however, has no relation to the height of the galvanic curve and varies among individuals.

4. In cases of dementia where there is no galvanic reaction, the changes of respiration exist but are very slight.

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[8] [Orig.: subconscious.]

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[9] [Jung supplied this bibliography, which contains less full references, which will be found in the entries in the volume bibliography.]

APPENDIX

A

STATISTICAL DETAILS OF ENLISTMENT

As [illegible] I [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] investigations.

[illegible] I [illegible] [illegible] [illegible] The [illegible] of the enlistment [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] served as an officer in the Soviet Army medical corps from [illegible]

[illegible] One must take into consideration that the formation of enlistment [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] have been [illegible] from the town presented themselves. Of these [illegible] per cent were unfit; of 2[illegible] men who came from the country, of these [illegible] per cent were unfit. The big difference between town and country might be explained by the fact that it is mainly the intelligent and enterprising people who converge on the towns, while the [illegible] get [illegible] and [illegible] remain in the country. The difference between town and country probably does not mean more than a symptom of the present tendency to migrate into the towns. The [illegible] in this cases was so [illegible] that where there had been any question of [illegible] diseases the psychiatrist present had stated that the accused were not responsible for their actions. [illegible] figures [illegible] the [illegible] approximately [illegible] per cent of Swiss adolescents would not be responsible for their actions! This is a terrifyingly high figure which casts a curious light on the [illegible] intelligence of our people, particularly of the rural population. The even higher figures for physical unfitness raise the question of whether there has always been an inferiority of this kind, or whether we are faced with degeneration. In any case an investigation of this problem in connection with environment, with its various [illegible] and economic reasons, [illegible] be worthwhile.

[illegible] In this connection one should consider the fact that in the [illegible] about which I am reporting, the farmers are alleged to have the [illegible] custom of delivering their milk to the cheese factories and of feeding their children on coffee and [illegible]. A similar custom is reported from the canton of Bern.

[illegible] When examining those [illegible] who reported some ailment to the Commission, I was struck by the large number of accidents. To avoid misunderstandings I noted only those cases that also impressed my colleagues as [illegible]. I have [illegible] the cases that [illegible] themselves as [illegible] [illegible] through tremor, heart or liver symptoms, and perhaps the [illegible] signs of polyneuritis. My material comprises [illegible] [illegible], nearly all of them between the ages of 20 and [illegible]. Of these [illegible], that is [illegible] per cent, had to be discharged as unfit for military service owing to chronic alcoholism. No statistical survey, however, reproduces this figure because these people are

---

[illegible] of Kranz [illegible]

[illegible] classified under the heading of [illegible] they are [illegible] erred under the more lenient [illegible] the al[illegible] [illegible] standard [illegible] of the heart or hypertrophy of the heart, chronic gastric catarrh, chronic nephritis, etc. One refers to these [illegible] with a kind of [illegible] personal consideration [illegible] when [illegible] highly detrimental [illegible] the [illegible] army [illegible] loses a disproportionately large number of strong men because of al[illegible]. What makes matters even worse is the fact [illegible] age group [illegible] the older age groups. One wonders what [illegible] are like in [illegible] we get [illegible] figures for the regular recruits!

2

NEW ASPECTS OF CRIMINAL PSYCHOLOGY

Contribution to the Method Used for the Psychological Diagnosis of [illegible] (Tatbestandsdiagnostik)

1316 The very simple experiment that is designed to measure the individual's reactions to given stimulus words, with the first word that crosses his mind, has become the point of departure for a long series of psychological problems that are of interest not only to the psychologist but also to the jurist and the psychiatrist.

1317 It is not my intention to give here a review of all association experiments; I only wish to indicate one of the possible applications of these experiments, which may interest practical psy-

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[Translated from the Italian [illegible] Contributo [illegible] della diagnosi del fatto [illegible] Tatbestandsdiagnostik, *Rivista di psicologia applicata* (Bologna), [illegible]. The [illegible] was [illegible] Baumgarten [illegible] that has not been [illegible]. Part of the article was [illegible]. The Association Method [illegible] Clark University [illegible] see [illegible] p. [illegible] and infra, n. 10.]

[1] The Italian [illegible] Cesare Ferrari, director of the provincial mental hospital at Imola.

Tatbestandsdiagnostik is one of those [illegible] the Germans [illegible] is, however, so important that we must try to find a sign which will [illegible]

[illegible] the first [illegible] has [illegible] such as [illegible] diagnosi [illegible] Each of these is, however, open to criticism.

[illegible] Jung's [illegible] faithful to the German phraseology [illegible] diagnosis [illegible] two pages of interpretation. For lack of a better term we [illegible] and we [illegible] organizers [illegible] Congress [illegible] Psychology [illegible] may improve on it.]

[illegible]

[illegible]

[illegible]

[illegible] "Psychological Diagnosis of Evidence," supra.

A good illustration of the laboratory experiments and [illegible] many questions [illegible] 1905.

The use of the association experiments for criminological [illegible] suggested by Wertheimer and Klein (1904).

[illegible] Association Studies edited by me (1906).

J. G. Schnitzler, medical dissertation [illegible] 1907 = Experimentelle Beiträge zur Tatbestandsdiagnostik (1909).

[illegible] was [illegible]. There were also a green [illegible] a [illegible] bottle of Ooo.

[illegible] and porter [illegible] employees were suspected of the theft [illegible] arrested [illegible] the contents of the bag [illegible] state [illegible] association experiment. Here are examples [illegible] the words chosen [illegible] *[illegible]* These were distributed among approximately [illegible] other words chosen for having the smallest possible [illegible] reference to the essence. This was done because we wanted to demonstrate [illegible] words derived from the experience [illegible] known in its [illegible] particulars [illegible] affect people subjected to the experiment.

[illegible] generally speaking [illegible] stimulus words [illegible]

Needless to say the subject is thus consciously set for the experience and [illegible]. We [illegible] experiment [illegible] anything [illegible] given [illegible]. You must say as quickly as possible the first word that the stimulus word suggests to you. It is possible [illegible] the subject [illegible] not saying the first word that comes to [illegible] At the same time [illegible] we measure the reaction time [illegible] as possible. If the subject does not say the first word [illegible] and [illegible] another [illegible] The [illegible] experimenter. [illegible] experiment [illegible] reaction times [illegible] the same [illegible] words [illegible] as a rule [illegible] people [illegible] subject [illegible] longed because it is difficult consciously to [illegible] the lapse of time. Apart from these possible [illegible] every other [illegible]

[illegible] speculations.

[illegible] meaning for him.

All these [illegible] [illegible]

[illegible] Cf. [illegible] "Disturbances of Reproduction in the Association Experiment," supra.

[illegible] complex-characteristics in question

[illegible] formed a e y following

[illegible]

9 Repetition of the stimulus-word.

[illegible] word is misunderstood

[illegible] Failure to react (i.e., where the subject does not know how to react)

[illegible]

7 Translation of the stimulus-word, or of the reaction [illegible] foreign language

8. Reaction in the form of an unusual expression

[illegible]

[illegible] of form

11 Interpolation of "yes" or of other interjections before or after the reaction-word

[illegible] therefore be omitted in an exact computation

[illegible]

[illegible] reaction-times observed during the investigations

[illegible] Association Experiments

[illegible] the subject.

[illegible] question.

[illegible] be known to be innocent.

[illegible] evidence. If [illegible]

suspect [illegible] has person [illegible]

Science [illegible] place [illegible] which [illegible] results [illegible] evidence [illegible] experiment [illegible] have [illegible] the experiment [illegible] take the first case it was entirely successful.[illegible]

Critique and Qualitative Analysis

xv. [illegible] possible [illegible] the [illegible] examination [illegible] present [illegible] great [illegible] This [illegible] subject [illegible] evidence [illegible] most [illegible] experiment [illegible] emerges [illegible] the maximum [illegible] complex [illegible] The [illegible] suspect [illegible] appearing [illegible] great [illegible] Nurse [illegible] appears [illegible] Nurse [illegible] Nurse B [illegible] experiment. Nurse C [illegible] feeling [illegible] the experiment.

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* "The Psychological Diagnosis of Evidence," supra.

[illegible] analysis of the case, which follows.

Here we have the ex[illegible] very exclusive [illegible] [illegible] [illegible] [illegible] [illegible] When [illegible] are [illegible] [illegible] present [illegible] differences [illegible] quantitative ones.

[illegible] It is nevertheless surprising that Nurse B. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Nurse C. [illegible] [illegible] Only [illegible] can throw light on this question.

[illegible] In Nurse C. [illegible] produced [illegible] [illegible] [illegible] [illegible] The [illegible] Nurse C. [illegible] [illegible] [illegible] [illegible] [illegible] negligence [illegible] [illegible] the patient [illegible] [illegible] experiment [illegible] as being conjured [illegible] [illegible] appeared in response to these words.

[illegible] The [illegible] complexes [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] pression¹)

[illegible]

[illegible] to assess the importance [illegible] compared [illegible] those that have only a general connection with the theft.

First [illegible] the probable mean [illegible] B and C [illegible] the same general probable mean as those shown by A (11.0).

Probable Mean of Reaction-times
(reduced to the level of that of the culprit)

	A	B	C
Special stimulus-words	15	15.1	12.8
General stimulus-words	18	11.0	14.6

[illegible] that the general [illegible] have a very strong [illegible] guilty nurse A. The special stimulus-words [illegible] A and [illegible] B, whereas [illegible] the general stimulus-words [illegible] expected confirmation [illegible] coming.

[illegible] investigate the same [illegible] from the point of view of complex-characteristics.

[illegible]

	A	B	C
Special stimulus-words	[illegible]	0.9	1.0
General stimulus-words	1	[illegible]	1.1

[illegible] a state of affairs [illegible] A and C [illegible] general stimulus-words exercise a stronger influence.

[illegible] the same point of view.

Incorrect Reproductions

	A	B	C
Special stimulus-words	0.4	[illegible]	[illegible]
General stimulus-words	0.6	[illegible]	[illegible]

[illegible] *Correspondence* (in press).)

2 Bracketed words added by translator.

[illegible] This shows [illegible] figures [illegible] are larger [illegible] the general [illegible]

[illegible] strong perseveration may ex[illegible] that perseveration [illegible] mainly after [illegible] experiment [illegible] may be [illegible] [illegible] from whatever emerges [illegible] general [illegible] as-words do.

[illegible] ordinary reactions that follow them.

	Stimulus word	*Reaction*	*Reaction-time*	*Reproduction*
(1)	banknote	money	15	–
	mountain	to climb	26	
	to play	to sing	15	
(2)	suspect (noun)	nobody	48	
	bottle	water	17	–
	fire	wood	9	
(3)	to hide	to lose, to look for	18	–
	sofa	seat	17	
	night	day	6	+
(4)	chain	round the neck	19	–
(5)	silver	gold	10	+

[illegible]

[illegible]	beauty	r	genuine	34	—
	wine		beer	8	+
	open	r	free	6	+
[illegible]	key		keyhole	19	+
	house		courtyard	18	—
	lamp		light	8	+

[illegible] Just as we have found that [illegible] the general stimulus-words that work with the utmost intensity, so we now see that the strongest single impact is made by those stimulus-words that refer particularly to the evidence. This shows that the general stimulus-words usually have a strong effect, whereas the special stimulus-words sometimes have an intense effect and sometimes a weak one.

[illegible] The only way in which we can [illegible] these results is to apply them as much as possible to practical cases, since for reasons not far to seek laboratory investigations are always rather incomplete.

[illegible] I am confident that [illegible] awakened a very [illegible] an interest [illegible] experiments of this kind [illegible] have encouraged others to [illegible] in this direction. It is only [illegible] the work may [illegible] proceed always towards the examination of practical cases that we can hope to make the diagnosis of a particular case a matter of greater certainty.

THE PSYCHOLOGICAL METHODS OF INVESTIGATION USED IN THE PSYCHIATRIC CLINIC OF THE UNIVERSITY OF ZURICH

[illegible] 1. [illegible] pe[illegible] [illegible] -ures.

[illegible]

[illegible] but contains a whole series of [illegible] situations.

[illegible] -ing.

[illegible] -ings as-sociation method.

[illegible] Freud's psychoanalytic method.

[illegible] other reports, from German institutions.

I

ON THE DOCTRINE OF COMPLEXES

1349 It is difficult to express in a short [illegible] I have laid down in my two books, Diagnostic Association Studies and The Psychology of Dementia Praecox. What I say here must necessarily be incomplete and superficial.

1350 My [illegible] experiments [illegible] especially [illegible] These experiments [illegible] types [illegible] [illegible] to [illegible] Rather, however, I have been [illegible] first [illegible] find that [illegible] person [illegible]

[illegible] and Havelock Ellis to send papers to be read before [illegible] see vol. XII of the Standard Edn., pp. 109ff.)

[illegible]

[illegible]

[illegible] In many cases the [illegible] expressed by the patient [illegible] fact.

The association experiment provides the means of studying experimentally the [illegible] of the complex. [illegible] between complex and [illegible]. We must assume that the complex is [illegible] [illegible] association experiment [illegible] the complex [illegible] expectation [illegible] the complex [illegible] The same [illegible] the [illegible] complexes [illegible] complex [illegible] exception [illegible] complex association [illegible] the super[illegible] [illegible] possessed [illegible] These patients [illegible] upon it a quasi foreign way.

[illegible] experiment [illegible] I regard the [illegible] In this [illegible] catatonic impulses, etc.

[illegible] that neuroses [illegible] tally [illegible] less [illegible] have [illegible]

[illegible] The [illegible] [illegible] [illegible]

[illegible] chologie.)

[illegible] be found in:

Jung, [illegible]

J. A. Barth, Leipzig.[2]

[illegible] Worcester, Mass., 1910.[3]

[illegible] tion of the experiments in a case of theft.

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[1] This may be Jung's first use of the term "analytical psychology." However, [illegible] Geneva "Aspects of Psychoanalysis," a paper which he delivered in London on Aug. [illegible] introduction [illegible] p. 524. The term [illegible] did not gain acceptance; the usual form is "depth psychology."

[2] Jung's papers are in the present volume; those of his collaborators are available in [illegible] M. D. Eder's translation, *Studies in Word-Association* [illegible]

[illegible]

Further details may be found in:[2]

Jung: *Die psychologische Diagnose des Tatbestandes*. Marhold, Halle.

Peterson and Jung: "Psycho-physical Investigations with the Galvanometer and Pneumograph in Normal and Insane Individuals." *Brain*, Vol. xxx, 1907.

Jung: "On Psychophysical Relations of the Association Experiment." *Journal of Abnormal Psychology*, Vol. I.

[illegible] the psychoses [illegible] Jung: *The Psychology of Dementia Praecox* [illegible] New York [illegible] *Der Inhalt der Psychose*. Deuticke, Vienna.[3]

[illegible] are [illegible] A general presentation of the problem may be found in:

Jung: "Wandlungen und Symbole der Libido." *Jahrbuch für Psychoanalytische und Psychopathologische Forschungen*, Deuticke, Vienna, Band III, 1911.[4]

[2] [illegible] Psychological Diagnosis of Evidence.")

[3] [illegible] "The Content of the Psychoses.")

[4] [illegible] as *Symbols of Transformation*, vol. 5 of the Coll. Works.

ON THE PSYCHOLOGICAL DIAGNOSIS OF FACTS

The Evidence Experiment in the Näf Trial

The method of investigating crime called "psycho[illegible] [illegible] gie, vol. XV, pp. 72–118.

[illegible] there.[2]

In [illegible]

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[1] Translated from [illegible] standsexperiment im Schwurgerichtsprozess Näf," *Archiv für Kriminolog*[illegible] criminological statement by M. W. Stengel, "Der Fall Näf: Mord und Versicherungsbetrug, Selbstmord oder Unfall?" pp. 98–99.

[2] [illegible] paper referred to in this document was by Wertheimer and Klein, "Psychologische Tatbestandsdiagnostik" (1904). In Jung's brief 1905 paper "On [illegible] with a statement in the *Archiv für die gesamte Psychologie*, VII (1906), [illegible] and Klein.]

[illegible] following [illegible] were handed to me:

1 A graphological opinion given by Dr. Pulver[1] on March 21, 1934.

2 [illegible] Burghölzli, of August 30, 1934.

[illegible]

[illegible] evidence-experiment.

I. The Experiment

[illegible] conditions of life of the subject.

[illegible] ampoule, etc.

[illegible]

[illegible] called group-characteristics, are these:

[illegible]

1. A reaction-time longer than the average (measured with a stop-watch).

2. Re[illegible] had not heard it properly.

3. Mishearing of the stimulus-word.

4. Expr[illegible] etc.

5. Reaction with more than one word.

6. [illegible] according to sound, etc.

7. Meaningless reaction.

8. Failure (failing to give a reaction).

9. Perseveration [illegible] reactions.

10. Defective reproduction, i.e., after the experiment we try [illegible] he gave the first time.

11. Slips of the tongue (stammering, etc.).

[illegible] character.

II. THE RESULTS OF THE EXPERIMENT

1. The Reaction-time

[illegible] resulted in a mean reaction-time of 2.4 seconds.

[illegible] with a long and those with a short reaction-time. In the latter group we usually found a perseveration phenomenon, which

In [illegible]% of the associations without personal meaning (outside the range of perseveration).

Expressed in words: the critical stimulus-words that are taken from the evidence had the greatest disturbing influence on the memory.

4. *Maximally Disturbed Associations*

[illegible] Among the [illegible] associations [illegible] were [illegible] maximally disturbed [illegible] complex [illegible] strong perseveration [illegible] the evidence [illegible] stimulus-words (compared) percentages [illegible] at all.

[illegible] Since the [illegible] experiment [illegible] presen[illegible] external [illegible] this rule applies [illegible] greater measure [illegible] maximal disturbances.

[illegible] The following [illegible] maximally disturbed associations:

Stimulus-word	[illegible]	R.T.[a]	Reaction	[illegible]	[illegible]	[illegible]
1. suicide	(yes)	5.0	to make death	–		[illegible]
2. [illegible]	[illegible]	8.8				4
3. stupid	–	6.0	not intelligent	–		
4. to scorn	+	9.4	not to love			2
5. smell	–	5.0	[illegible][b]	+	–	3

---

[a] R.T. = reaction time. C.C. = complex-characteristics.

[b] [Original in Swiss dialect.]

[illegible] called [illegible] by a prolonged [illegible] of the association [illegible] following. When the reaction-time of a [illegible] association was long, then [illegible] the following association [illegible] personal meaning was [illegible] personal meaning [illegible] the reaction-time [illegible] association was short [illegible] This resulted in the following picture:

Reaction-time after critical stimulus-word:
First group: long 3.2 secs
short 2.5
Second group: short 2.4 secs
long 3.3

Expressed [illegible] words produce [illegible] lengthening of the reaction-time [illegible] which is 0.8 and 0.9 seconds.

2. *The Complex-characteristics*

The experiment [illegible] following [illegible] the complex-characteristics described above:

Associations [illegible] complex-characteristics
[illegible] complex-characteristics
[illegible] complex-characteristics

[illegible] are taken from [illegible] produce it appears [illegible] many disturbing [illegible] personal meaning [illegible] passes [illegible] the [illegible] stimulus-words by 0.2

3. *Incorrect Reproductions*

[illegible] together with [illegible] per cent [illegible] these mistakes [illegible] immediately following [illegible]

In 32.5% of the emotional associations
In 36.0% of the evidence-associations

	Stimulus word	[illegible]	[illegible]	Reaction time	Reaction	[illegible]	[illegible]	[illegible]	[illegible]
6	gas			5.2	poison methane	+			
	cow	+	+	6.8	mammal	+			[illegible]
8	drunk		+	5.2	intoxication	-			[illegible]
9.	hose			2.0	rubber		+		
10.	mouth		+	5.8	Large bell of the mouth (flower?)				
					part of the year	-	-	5	[illegible]
	to marry		-	5.6	dear—yes	-	-	4	2
	rush			9.6	is best—yes			4	2
[illegible]	[illegible]				[illegible]				[illegible]
	[illegible]			[illegible]	[illegible] beer			2	[illegible]
	ampoule		-	4.0	adrenalin	+	-	5	2
	to inherit		-	4.0	disinherited	+	+	5	
	to oxidation			3.0	silly feeling			4	
	[illegible]		-	4.0	we hope—	+	-	5	3
	marriage			10.0	married			3	
	picture postcard		-	5.8	for sending	+		1	
21.	ground			3.2	air etc	-		4	
[illegible]	[illegible]				[illegible]			1	2
23	peace		-	3.0	unpeaceful	+		[illegible]	
24	brush		+	4.0	to clean	-	+		
5	soap		-	4.0	fatty		+		
	tap			2.8	brass	+			[illegible]
	to despair		+	8.8	don't know	+			
	heimlich cozy secret		-	2.8	*nicht unheimlich*[a] (not uncanny)	+		1	
89.	frustrated		-	10.0	don't know what's called	-		5	2
90.	anxiety		+	3.6	to [illegible]	+	-	4	1
91	calf		+	4.8	cow	+	-	4	1
92	success			4.0	unsuccessful	-	-	4	1
93.	to kill		-	3.6	how can I express myself? — stop breath— to suffer	+ +	+	3	4
94	periodical		+	2.8	subscription	-	+	3	4
95	syringe			2.4	for injecting	+		4	4
96.	injecting		-	3.6	injection	+	-	5	1

---

[a] [Original in Swiss dialect.]

[illegible] As we [illegible] taken [illegible] [illegible] named [illegible] per [illegible] [illegible] phen [illegible] response [illegible]

[illegible] To summarize:

[illegible] stimulus-words by 12.7.

[illegible] Among the evidence stimulus-words, those prevail that refer to concrete or otherwise distinctive details of the evidence by 0%.

5. *The Minimally Disturbed Critical Associations*

[illegible] complex [illegible] experie[illegible] [illegible] after only 2.8 seconds.

[illegible] their appreciably stronger effect.

THE EXPERT OPINION

[illegible] It may be stated in the first place that an association experiment will under these conditions result, as a rule, in appreciably higher degrees of disturbance with [illegible] reactions. The reason is that the [illegible] usually stir up a lively, vexing affect [illegible] the associations. The general picture of disturbance will [illegible] impression a great deal. It would, however, be a [illegible] piece of circumstantial evidence in the case of a defendant who at the preliminary [illegible] had become acquainted with the extensive [illegible] and therefore [illegible] knows the details. In our case everyone [illegible] the evidence is known except the incriminating details. Therefore the [illegible] ance of the general reactions is not relevant in evaluating the psychological situation. [illegible] consideration [illegible] can [illegible] promise some success. Consequently I devised the experiment in a certain way. I selected general stimulus-words that are [illegible] to be affectively potent in other [illegible] [illegible] on the general emotional make-up of the subject; then I selected general and special stimulus-words [illegible] from the evidence in order to determine whether the general emotional situation or the special concrete evidence was in the foreground of the affective interest.

[illegible] Experience has shown that a [illegible] will concentrate more on the general [illegible] being sustained [illegible] evidence [illegible] irrelevant [illegible] concrete details [illegible] and therefore [illegible] the integration [illegible] sense of justice and [illegible] possible [illegible]. My findings demonstrate [illegible] less affected by the general emotional [illegible] referring to the evidence [illegible] the particular concrete details [illegible] weight for the judicial proof of guilt.

[illegible] [illegible] repeats [illegible] that he did not properly understand the word. Then he hesitates for 4 seconds until he [illegible] says "morning." The next stimulus-

[illegible] which [illegible] was [illegible] pre-pared because she has a reaction [illegible] disturbed [illegible] She also repeats [illegible] reaction [illegible] takes as [illegible] seconds. [illegible] slowly follows [illegible] lapsus [illegible] the stimulus-word *song* [illegible] harmless [illegible] after-effect [illegible] reaction [illegible] the stimulus-word [illegible] considerable [illegible] tional standard.

[illegible] Such processes are [illegible] the [illegible] in the [illegible] the complete [illegible] reactions. From this [illegible] must be [illegible] that it is [illegible] the subject's ideas centring [illegible] the concrete details of the evidence that carry the strongest affects, and that other affects recede into the background.

[illegible] That this diagnosis is [illegible] proved by the fact that the subject herself [illegible] states [illegible] every sign of affect [illegible] ideas [illegible] corroborated by our findings.

[illegible] It must be emphasized that apart from the [illegible] complex [illegible] referring [illegible] *sleep* [illegible] less than three are maximally disturbed. This fact can [illegible] understood as meaning that the subject [illegible] a very strong [illegible] conflict [illegible] stupid behaviour.

[illegible] The maximal disturbance at *to marry* and *marriage* indicates [illegible] can only be interpreted as meaning [illegible] was [illegible] cal character.

[illegible] Likewise the stimulus-words *to make* [illegible] and *[illegible]* [illegible] which proves that these words can [illegible] background [illegible] conflict and complication.

[illegible] The stimulus-words *change one* and *[illegible]* with maximal [illegible] indicate that the subject was not prepared to respond to these ideas.

[The [illegible] actually used are [illegible] (standard) and *[illegible]* *wolte* (dialect), both meaning "to force."]

[illegible] discretion of the judge

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Arch. ges. Psychol. = *Archiv für die gesamte Psychologie.* Leipzig.

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Psychiat.-neurol. Wschr. = Psychiatrisch-neurologische Wochenschrift. Halle.

Psychol. Bull. = Psychological Bulletin. Lancaster, Pa. and New York.

Rev. phil. = Revue philosophique de la France et de l'étranger. Paris.

Rif. med. = Riforma medica. Rome.

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Samml. Abh. päd. Psychol. = Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie. Berlin.

Wien. klin. Rdsch. = Wiener klinische Rundschau. Vienna.

Z. angew. Psychol. = Zeitschrift für angewandte Psychologie. Leipzig.

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THE COLLECTED WORKS OF

C. G. JUNG

THE PUBLICATION of the first complete edition, in English, of the works of C. G. Jung was undertaken by Routledge and Kegan Paul, Ltd., in England and by Bollingen Foundation in the United States. The American edition is number XX in Bollingen Series, which since 1967 has been published by Princeton University Press. The edition contains revised versions of works previously published, such as *Psychology of the Unconscious*, which is now entitled *Symbols of Transformation*; works originally written in English, such as *Psychology and Religion*; works not previously translated, such as *Aion*; and, in general, new translations of virtually all of Professor Jung's writings. Prior to his death, in 1961, the author supervised the textual revision, which in some cases is extensive. Sir Herbert Read (d. 1968), Dr. Michael Fordham, and Dr. Gerhard Adler compose the Editorial Committee; the translator is R. F. C. Hull (except for volume 2) and William McGuire is executive editor.

The price of the volumes varies according to size; they are sold separately, and may also be obtained on standing order. Several of the volumes are extensively illustrated. Each volume contains an index and in most a bibliography; the final volume will contain a complete bibliography of Professor Jung's writings and a general index to the entire edition.

In the following list, dates of original publication are given in parentheses (of original composition, in brackets). Multiple dates indicate revisions.

*1. PSYCHIATRIC STUDIES

On the Psychology and Pathology of So-Called Occult Phenomena (1902)

On Hysterical Misreading (1904)

Cryptomnesia (1905)

On Manic Mood Disorder (1903)

A Case of Hysterical Stupor in a Prisoner in Detention (1902)

On Simulated Insanity (1903)

A Medical Opinion on a Case of Simulated Insanity (1904)

A Third and Final Opinion on Two Contradictory Psychiatric Diagnoses (1906)

On the Psychological Diagnosis of Facts (1905)

†2. EXPERIMENTAL RESEARCHES

Translated by Leopold Stein in collaboration with Diana Riviere

STUDIES IN WORD ASSOCIATION (1904–7, 1910)

The Associations of Normal Subjects (by Jung and F. Riklin)

An Analysis of the Associations of an Epileptic

The Reaction-Time Ratio in the Association Experiment

Experimental Observations on the Faculty of Memory

Psychoanalysis and Association Experiments

The Psychological Diagnosis of Evidence

Association, Dream, and Hysterical Symptom

The Psychopathological Significance of the Association Experiment

Disturbances in Reproduction in the Association Experiment

The Association Method

The Family Constellation

PSYCHOPHYSICAL RESEARCHES (1907–8)

On the Psychophysical Relations of the Association Experiment

Psychophysical Investigations with the Galvanometer and Pneumograph in Normal and Insane Individuals (by F. Peterson and Jung)

Further Investigations on the Galvanic Phenomenon and Respiration in Normal and Insane Individuals (by C. Ricksher and Jung)

Appendix: Statistical Details of Enlistment (1906); New Aspects of Criminal Psychology (1908); The Psychological Methods of Investigation Used in the Psychiatric Clinic of the University of Zurich (1910); On the Doctrine of Complexes ([1911] 1913); On the Psychological Diagnosis of Evidence (1937)

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* Published 1957; 2nd edn., 1970. † Published 1973.

*3. THE PSYCHOGENESIS OF MENTAL DISEASE
The Psychology of Dementia Praecox (1907)
The Content of the Psychoses (1908/1914)
On Psychological Understanding (1914)
A Criticism of Bleuler's Theory of Schizophrenic Negativism (1911)
On the Importance of the Unconscious in Psychopathology (1914)
On the Problem of Psychogenesis in Mental Disease (1919)
Mental Disease and the Psyche (1928)
On the Psychogenesis of Schizophrenia (1939)
Recent Thoughts on Schizophrenia (1957)
Schizophrenia (1958)

†4. FREUD AND PSYCHOANALYSIS
Freud's Theory of Hysteria: A Reply to Aschaffenburg (1906)
The Freudian Theory of Hysteria (1908)
The Analysis of Dreams (1909)
A Contribution to the Psychology of Rumour (1910–11)
On the Significance of Number Dreams (1910–11)
Morton Prince, "The Mechanism and Interpretation of Dreams": A Critical Review (1911)
On the Criticism of Psychoanalysis (1910)
Concerning Psychoanalysis (1912)
The Theory of Psychoanalysis (1913)
General Aspects of Psychoanalysis (1913)
Psychoanalysis and Neurosis (1916)
Some Crucial Points in Psychoanalysis: A Correspondence between Dr. Jung and Dr. Loÿ (1914)
Prefaces to "Collected Papers on Analytical Psychology" (1916, 1917)
The Significance of the Father in the Destiny of the Individual (1909/1949)
Introduction to Kranefeldt's "Secret Ways of the Mind" (1930)
Freud and Jung: Contrasts (1929)

‡5. SYMBOLS OF TRANSFORMATION (1911–12/1952)
PART I
Introduction
Two Kinds of Thinking
The Miller Fantasies: Anamnesis
The Hymn of Creation
The Song of the Moth *(continued)*

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* Published 1960. † Published 1961.
‡ Published 1956; 2nd edn., 1967. (65 plates, 43 text figures.)

5. *(continued)*

PART II

Introduction

The Concept of Libido

The Transformation of Libido

The Origin of the Hero

Symbols of the Mother and of Rebirth

The Battle for Deliverance from the Mother

The Dual Mother

The Sacrifice

Epilogue

Appendix: The Miller Fantasies

*6. PSYCHOLOGICAL TYPES (1921)

Introduction

The Problem of Types in the History of Classical and Medieval Thought

Schiller's Ideas on the Type Problem

The Apollinian and the Dionysian

The Type Problem in Human Character

The Type Problem in Poetry

The Type Problem in Psychopathology

The Type Problem in Aesthetics

The Type Problem in Modern Philosophy

The Type Problem in Biography

General Description of the Types

Definitions

Epilogue

Four Papers on Psychological Typology (1913, 1925, 1931, 1936)

†7. TWO ESSAYS ON ANALYTICAL PSYCHOLOGY

On the Psychology of the Unconscious (1917, 1926, 1943)

The Relations between the Ego and the Unconscious (1928)

Appendix: New Paths in Psychology (1912); The Structure of the Unconscious (1916) (new versions, with variants, 1966)

‡8. THE STRUCTURE AND DYNAMICS OF THE PSYCHE

On Psychic Energy (1928)

The Transcendent Function ([1916] 1957)

A Review of the Complex Theory (1934)

The Significance of Constitution and Heredity in Psychology (1929)

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* Published 1971

† Published 1953; 2nd edn., 1966

‡ Published 1960; 2nd edn., 1969

Psychological Factors Determining Human Behavior (1937)
Instinct and the Unconscious (1919)
The Structure of the Psyche (1927/1931)
On the Nature of the Psyche (1947/1954)
General Aspects of Dream Psychology (1916/1948)
On the Nature of Dreams (1945/1948)
The Psychological Foundations of Belief in Spirits (1920/1948)
Spirit and Life (1926)
Basic Postulates of Analytical Psychology (1931)
Analytical Psychology and Weltanschauung (1928/1931)
The Real and the Surreal (1933)
The Stages of Life (1930–1931)
The Soul and Death (1934)
Synchronicity: An Acausal Connecting Principle (1952)
Appendix: On Synchronicity (1951)

*9. PART I. THE ARCHETYPES AND THE COLLECTIVE UNCONSCIOUS

Archetypes of the Collective Unconscious (1934/1954)
The Concept of the Collective Unconscious (1936)
Concerning the Archetypes, with Special Reference to the Anima Concept (1936/1954)
Psychological Aspects of the Mother Archetype (1938/1954)
Concerning Rebirth (1940/1950)
The Psychology of the Child Archetype (1940)
The Psychological Aspects of the Kore (1941)
The Phenomenology of the Spirit in Fairytales (1945/1948)
On the Psychology of the Trickster Figure (1954)
Conscious, Unconscious, and Individuation (1939)
A Study in the Process of Individuation (1934/1950)
Concerning Mandala Symbolism (1950)
Appendix: Mandalas (1955)

*9. PART II. AION (1951)

RESEARCHES INTO THE PHENOMENOLOGY OF THE SELF

The Ego
The Shadow
The Syzygy: Anima and Animus
The Self
Christ, a Symbol of the Self
The Sign of the Fishes *(continued)*

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* Published 1959; 2nd edn., 1968. Part I: 79 plates, with 29 in colour.

9. (*continued*)
The Prophecies of Nostradamus
The Historical Significance of the Fish
The Ambivalence of the Fish Symbol
The Fish in Alchemy
The Alchemical Interpretation of the Fish
Background to the Psychology of Christian Alchemical Symbolism
Gnostic Symbols of the Self
The Structure and Dynamics of the Self
Conclusion

*10. CIVILIZATION IN TRANSITION
The Role of the Unconscious (1918)
Mind and Earth (1927/1931)
Archaic Man (1931)
The Spiritual Problem of Modern Man (1928/1931)
The Love Problem of a Student (1928)
Woman in Europe (1927)
The Meaning of Psychology for Modern Man (1933/1934)
The State of Psychotherapy Today (1934)
Preface and Epilogue to "Essays on Contemporary Events" (1946)
Wotan (1936)
After the Catastrophe (1945)
The Fight with the Shadow (1946)
The Undiscovered Self (Present and Future) (1957)
Flying Saucers: A Modern Myth (1958)
A Psychological View of Conscience (1958)
Good and Evil in Analytical Psychology (1959)
Introduction to Wolff's "Studies in Jungian Psychology" (1959)
The Swiss Line in the European Spectrum (1928)
Reviews of Keyserling's "America Set Free" (1930) and "La Révolution Mondiale" (1934)
The Complications of American Psychology (1930)
The Dreamlike World of India (1939)
What India Can Teach Us (1939)
Appendix: Documents (1933–1938)

†11. PSYCHOLOGY AND RELIGION: WEST AND EAST
WESTERN RELIGION
Psychology and Religion (The Terry Lectures) (1938/1940)

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* Published 1964; 2nd edn., 1970. (8 plates.)
† Published 1958; 2nd edn., 1969.

A Psychological Approach to the Dogma of the Trinity (1942/1948)
Transformation Symbolism in the Mass (1942/1954)
Forewords to White's "God and the Unconscious" and Werblowsky's "Lucifer and Prometheus" (1952)
Brother Klaus (1933)
Psychotherapists or the Clergy (1932)
Psychoanalysis and the Cure of Souls (1928)
Answer to Job (1952)

EASTERN RELIGION

Psychological Commentaries on "The Tibetan Book of the Great Liberation" (1939/1954) and "The Tibetan Book of the Dead" (1935/1953)
Yoga and the West (1936)
Foreword to Suzuki's "Introduction to Zen Buddhism" (1939)
The Psychology of Eastern Meditation (1943)
The Holy Men of India: Introduction to Zimmer's "Der Weg zum Selbst" (1944)
Foreword to the "I Ching" (1950)

*12. PSYCHOLOGY AND ALCHEMY (1944)

Prefatory Note to the English Edition ([1951?] added 1967)
Introduction to the Religious and Psychological Problems of Alchemy
Individual Dream Symbolism in Relation to Alchemy (1936)
Religious Ideas in Alchemy (1937)
Epilogue

†13. ALCHEMICAL STUDIES

Commentary on "The Secret of the Golden Flower" (1929)
The Visions of Zosimos (1938/1954)
Paracelsus as a Spiritual Phenomenon (1942)
The Spirit Mercurius (1943/1948)
The Philosophical Tree (1945/1954)

‡14. MYSTERIUM CONIUNCTIONIS (1955–56)

AN INQUIRY INTO THE SEPARATION AND
SYNTHESIS OF PSYCHIC OPPOSITES IN ALCHEMY

The Components of the Coniunctio
The Paradoxa
The Personification of the Opposites
Rex and Regina *(continued)*

* Published 1953; 2nd edn., completely revised, 1968. (270 illustrations.)
† Published 1968. (50 plates, 4 text figures.)
‡ Published 1963; 2nd edn., 1970. (10 plates.)

14. *(continued)*
Adam and Eve
The Conjunction

*15. THE SPIRIT IN MAN, ART, AND LITERATURE
Paracelsus (1929)
Paracelsus the Physician (1941)
Sigmund Freud in His Historical Setting (1932)
In Memory of Sigmund Freud (1939)
Richard Wilhelm: In Memoriam (1930)
On the Relation of Analytical Psychology to Poetry (1922)
Psychology and Literature (1930/1950)
"Ulysses": A Monologue (1932)
Picasso (1932)

†16. THE PRACTICE OF PSYCHOTHERAPY
GENERAL PROBLEMS OF PSYCHOTHERAPY
Principles of Practical Psychotherapy (1935)
What Is Psychotherapy? (1935)
Some Aspects of Modern Psychotherapy (1930)
The Aims of Psychotherapy (1931)
Problems of Modern Psychotherapy (1929)
Psychotherapy and a Philosophy of Life (1943)
Medicine and Psychotherapy (1945)
Psychotherapy Today (1945)
Fundamental Questions of Psychotherapy (1951)
SPECIFIC PROBLEMS OF PSYCHOTHERAPY
The Therapeutic Value of Abreaction (1921/1928)
The Practical Use of Dream-Analysis (1934)
The Psychology of the Transference (1946)
Appendix: The Realities of Practical Psychotherapy ([1937] added 1966)

‡17. THE DEVELOPMENT OF PERSONALITY
Psychic Conflicts in a Child (1910/1946)
Introduction to Wickes's "Analyse der Kinderseele" (1927/1931)
Child Development and Education (1928)
Analytical Psychology and Education: Three Lectures (1926/1946)
The Gifted Child (1943)
The Significance of the Unconscious in Individual Education (1928)

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* Published 1966.
† Published 1954; 2nd edn., revised and augmented, 1966. (4 illustrations.)
‡ Published 1954.

The Development of Personality (1934)
Marriage as a Psychological Relationship (1925)

18. MISCELLANY
Posthumous and Other Miscellaneous Works

19. BIBLIOGRAPHY AND INDEX
Complete Bibliography of C. G. Jung's Writings
General Index to the Collected Works

See also:

C. G. JUNG: LETTERS

Selected and edited by Gerhard Adler, in collaboration with Aniela Jaffé
Translations from the German by R. F. C. Hull
VOL. 1: 1906–1950*
VOL. 2: 1951–1961

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* Published [illegible] the Princeton [illegible] Bollingen Series XCV

Date Due

JAN [illegible] 1977
~~JUL [illegible] 1978~~
DEC 1[illegible] 1978
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JAN 07 199[illegible]
JAN 07 1998
MAY 26 1999

BF 23 .J76
Jung, C. G. (Carl Gustav)
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